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Knowledge Workers' Daily Experiences with Technostress and Presenteeism: A Single Case Study

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This is to certify that the doctoral dissertation by

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Abstract

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MPhil, Walden University, 2020

MBA, Midwestern State University, 2000

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Despite the prominence of Information and Communication Technologies (ICT)-enabled technostress in organizations, there is a gap in the literature on how knowledge workers cope with technostress, and managers know little about the interface of ICT-induced presenteeism on employee productivity. The overarching research question was developed to address the purpose of this qualitative single case study with embedded units, which was to understand the perceptions of knowledge workers on the interface of technostress and ICT-induced presenteeism on their work productivity. To address the study's research problem and purpose, qualitative data were collected from multiple sources of evidence, including semistructured interviews with 17 knowledge workers, archival data, and reflective journaling notes. This study was framed by the concept of presenteeism developed by Lohaus and Habermann within their comprehensive presenteeism model, a decision-integrated model of presenteeism. Thematic analysis of data from the interviews revealed 24 themes encased within six coding categories: (a) working conditions of today's knowledge worker, (b) antecedent factors leading to presenteeism, (c) decision-making factors leading to presenteeism, (d) consequences of presenteeism, (e) presenteeism consequences on work productivity, and (f) knowledge workers' views on technostress prevention for better work productivity. The implications for positive social change for knowledge workers include managers using the findings to help create policies and processes to develop a healthy, safe, and productive technology-infused work environment.

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Dedication

This study is dedicated to my Dad, John Wendell Himes Jr., who throughout his life demonstrated to me that attention to people will always be the resounding answer to any management problem. My father instituted management by wandering around (MBWA) long before it became popular. He showed me that working hard will always pay off.

Even though he is no longer with me on Earth, I know he has been with me every step of the way and would be proud of what I have accomplished.

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Chapter 1: Introduction to the Study

Enhanced technologies have allowed knowledge workers to stay in constant connectivity and share information while retaining *always-on* accessibility (Lohaus & Habermann, 2019). As noted in the information and communication technology (ICT) literature, the most prominent intrusive feature imposed on knowledge workers in technology-infused job environments is *presenteeism* (Cooper & Lu, 2016; Lohaus & Habermann, 2019). Presenteeism promotes an *always-on* work culture because it places increasing demands on workers' availability and responsiveness. Such always-on accessibility of ICT knowledge workers results in information overload where technology becomes a negative source of stress and leads to a recent employee health concern termed *technostress* (Variya & Patel, 2020).

The presenteeism phenomenon has led to intrusion into knowledge workers' personal lives, possibly creating chronic stress from work overload and work ambiguity for information technology (IT) professionals (Kaushal, 2019). Being excessively *accessible* has become more costly to the ICT industry sector than even absenteeism among its employees through the rise of presenteeism (Cooper & Lu, 2016). Consequently, the rising presenteeism phenomena among knowledge workers may also be costly to tech firms due to the lower levels of work productivity experienced by these employees arriving to work depressed and exhausted (Cooper & Lu, 2016; Zhao et al., 2020). Preventing presenteeism's adverse effects is essential for organizations wishing to maintain a productive and healthy work environment for knowledge workers (Umair et al., 2019). Scholars have found that ICT managers usually know little about the interface

of ICT-induced presenteeism and technostress on an employee's work productivity (Karanika-Murray & Biron, 2020; Liu & Lu, 2020).

In this introductory chapter, I provide background literature leading to the problem statement development to explain the gap in the scholarly literature. The demonstration of alignment between problem, purpose, research questions, research design, and conceptual framework will follow. Lastly, this chapter will include a discussion of the significance, assumptions, limitations of the study, and definitions of key terms used throughout the study.

Background of the Study

Global advances in technology have led knowledge-intensive industries and professional service firms in the knowledge economy to seek greater efficacy in improving knowledge workers' productivity (George et al., 2017; Shujahat et al., 2019). Drucker (1959) coined the term *knowledge worker* to describe changes occurring to work as capitalism matured. In the emergent, mid-20th century, firms found themselves being forced to acknowledge the importance of "talent" to competitive success. The ICT knowledge economy is based on knowledge generation, sharing, and application, driving today's technology-infused workplaces. The pressure resulting from well-documented work overload plaguing ICT firms' talent has led to a rise in technology-induced health concerns, a growing phenomenon in recent years among ICT knowledge workers (Weerasekara & Smedberg, 2019).

Perhaps the most distinctive stress-inducing features of today's ICTs are intrusive by nature, with scholars identifying the most prominent intrusive feature imposed on

knowledge workers as presenteeism (Lohaus & Habermann, 2019). Employee work productivity has been well studied in the management field, but presenteeism's effects are new to organizational research (Karanika-Murray & Biron, 2020). Presenteeism, being physically present at work but functionally absent, has proven to have lasting effects on employee health in addition to lower levels of work productivity (George et al., 2018).

The job requirements of ICT knowledge workers necessitate being in constant connectedness, making employees easily reachable at all times. Though some studies have suggested constant connectivity leads to increased productivity and job sharing (Zhao et al., 2020; Lee et al., 2017), other studies reported that constant connectedness leads to technostress (Luoma et al., 2020; Zhao et al., 2020). Technostress resulting from involuntary presenteeism, or enforced presenteeism, occurs when employees are exposed to continuous stimuli from electronic connectivity systems (Luoma et al., 2020). However, the inconsistent effects of stressors discussed in the theory of stress (Lazarus & Folkman, 1984) suggest that performance outcomes can be influenced by different appraisal and coping processes. Understanding how ICT knowledge workers cope with involuntary presenteeism may allow management to prevent or decrease the extent of the adverse outcomes through organizational change initiatives to promote a healthy work environment (Luoma et al., 2020).

Knowledge workers face higher expectations of qualifications, efficiency, and professionalism, particularly within their field (Aghaz & Sheikh, 2016). The recent job design change from permanent to more and more temporary or contract-based jobs in the

ICT industry has also led to stress from an ambiguous work environment (Kaushal, 2019). One out of 5 jobs in the United States is now held by contracted workers, such as ICT knowledge workers, that provide no allowance for sick leave, making absenteeism an added ICT employee stressor (Cooper & Lu, 2018). Absenteeism has been widely acknowledged and researched by management, but presenteeism costs are still unknown (Cooper & Lu, 2018). Various disciplines view presenteeism differently, leaving a poor overall understanding that requires further study (Ruhle et al., 2020; Cooper & Lu, 2018). Scholars have noted a gap in the theoretical literature on knowledge workers' experiences with technostress overload due to involuntary presenteeism, which needs further and timely empirical research (Luoma et al., 2020; Ruhle et al., 2020**)**.

Problem Statement

The rapid proliferation of ICTs has altered knowledge workers' daily lives, giving rise to technology as a source of stress or technostress (Variya & Patel, 2020). The rapid pace of technological change further aggravates work overload for knowledge workers' because it imposes constant learning and skill acquisition, simultaneously triggering further role ambiguity and job insecurity (Horned & Forsman, 2019). Perhaps the most distinctive stress-inducing features of today's ICTs are intrusive by nature (George et al., 2017). As noted in the ICT literature, the most prominent intrusive feature imposed on knowledge workers in technology-infused job environments is presenteeism (Cooper & Lu, 2016; Lohaus & Habermann, 2019). Presenteeism promotes an always-on work culture because it increases demands on workers' availability and responsiveness and results in information overload, defined as the negative impact of an unlimited amount of

information on work performance (George et al., 2017; Köffer et al., 2014). The social problem under study was that knowledge workers have little or no training in coping with the overload of technostress required by presenteeism on their jobs (Karanika-Murray & Biron, 2020; Liu & Lu, 2020).

Literature has shown that overcoming stress requires coping, and researchers have found that many workers display poor coping skills with ICT-enabled presenteeism, resulting in technostress overload and adverse employee outcomes (Lee et al., 2018; Variya & Patel, 2020). Considering that workers display high levels of anxiety in evaluating the fit between themselves and their work environment, strategies are needed to prevent employee technostress and low work productivity within ICT-infused workplaces where constant presenteeism is required (Tarafdar et al., 2019). Despite the prominence of ICT-enabled technostress in organizations, there is a gap in the literature on supporting knowledge workers coping with technostress, and managers usually know little about the interface of ICT-induced presenteeism on employee productivity (Karanika-Murray & Biron, 2020; Liu & Lu, 2020). The specific management problem under study was the perception of knowledge workers on the interface of technostress and ICT-induced presenteeism on their work productivity remains poorly understood (Lohaus & Habermann, 2019; Luoma et al., 2020; Zhao et al., 2020).

Purpose of the Study

The purpose of this qualitative, exploratory, single case study with embedded units was to understand the perceptions of knowledge workers on the interface of technostress and ICT-induced presenteeism on their work productivity. I conducted this

study to address the literature gap related to how managers may support knowledge workers coping with technostress and the interface of ICT-induced presenteeism on employee performance and productivity (Karanika-Murray & Biron, 2020; Liu & Lu, 2020). In this study, I employed a single case study with an embedded unit design (Yin, 2017). Information from 17 semistructured interviews, reflective field notes, and archival data was collected through multiple sources to answer the research question (Stake, 2010; Yin, 2017). Triangulation of data sources was utilized to establish the trustworthiness of the study results on the phenomena under study (Guion et al., 2011; Tracy, 2019).

Research Question

How do knowledge workers describe their perceptions of the interface of technostress and ICT-induced presenteeism on their work productivity?

Conceptual Framework

There is still little known about the experiences of knowledge workers with technostress overload, precisely due to involuntary presenteeism and the interface of technostress and ICT-induced presenteeism on their work productivity (Lohaus & Habermann, 2019; Lu et al., 2020; Luoma et al., 2020; Zhao et al., 2020). This study was framed by the concept of presenteeism developed by Lohaus and Habermann (2019) within their comprehensive presenteeism model, a decision-integrated model of presenteeism that clarified the distinction between causes and effects. Lohaus and Habermann's theoretical work on presenteeism was grounded in Johns's (2010) framework model of presenteeism. While Johns did not incorporate a complete theory, the framework model of presenteeism constituted the most comprehensive concerning

pertinent variables. The author also detailed the critical variables of a presenteeism and absenteeism theory about antecedents and consequences (Fiorini et al., 2018). While Johns did list certain variables that could influence a choice between presenteeism and absenteeism, the decision-making process was not explicitly addressed.

The comprehensive presenteeism model (Lohaus & Habermann, 2019) was also grounded in Cooper and Lu's (2016) theory of presenteeism, in which contextual variables (i.e., social norms, organizational support, cultural values, and arrangements for replacement) are differentiated from personal variables and social-cognitive processes (e.g., personality traits, engagement in work, and gender). Contrasting with other models, Cooper and Lu's theory also incorporated the psychological mechanisms at play in the process, making it more comprehensive. Further elaboration on the logical connections among critical elements of the conceptual framework to the study's purpose and its relation to the study approach, research questions, and research method is provided in Chapter 2.

Nature of the Study

I used a qualitative approach to align with the study's purpose and provide data to address the research question grounded in the constructivist paradigm to understand how individuals find meaning from social interactions and experiences (Denzin & Lincoln, 2005; Lee, 2012). The quantitative method was inappropriate for this study because quantitative research designs examine relationships, test theories, standardize reporting, and collect quantifiable data (Harkiolakis, 2017). A mixed-methods approach was not appropriate because quantitative data are not suitable to answer my research question

(Bryman, 2017). The research problem and the study's nature required a qualitative methodology because it allowed for a succinct exploration of an issue involved in a complex social process (Merriam & Tisdell, 2016). Given that the study's purpose called for a deeper understanding of knowledge workers' perceptions of the interface of technostress and ICT-induced presenteeism on their work productivity, a single exploratory case study with embedded units was most suitable to meet the study goals (Yin, 2017).

The goal of qualitative research is to explore experiences from people living within a specific context (Tracy, 2019). Constructivists question how people perceive the world and interpret the interactions between individuals and the environment (Cooper & White, 2012). Qualitative research also presents opportunities for describing how to evaluate business decisions and exploring the reasons behind various aspects of behavior within organizations. In this study, ICT workers' work productivity was explored within the context of technostress and ICT-induced presenteeism (Klenke, 2016). Qualitative case studies comprise a long tradition of using case studies in business teachings because of their reliability, while quantitative and positivist research is relied on more to generate detailed and holistic knowledge using multiple sources in an information-rich context (Eriksson & Kovalainen, 2015; Yin, 2017).

Purposeful sampling is widely used in qualitative research to identify and select information-rich cases related to the phenomenon of interest (Halkias & Neubert, 2020). Although there are various purposeful sampling strategies, criterion sampling should be used in the most common implementation research (Baxter & Jack, 2008). Snowball

sampling is the most common form of purposeful sampling; it works by asking a few key participants who already meet the study's criteria to refer to others who may also meet the criteria (Merriam & Tisdell, 2016). I recruited participants for this case study using purposeful, criterion, and snowball sampling strategies and screened them for meeting the following inclusion criteria: (a) were an adult over the age of 18, (b) had 3 years minimum of experience as an ICT knowledge worker, and (c) possessed knowledge regarding employment conditions in a technology-infused workplace (Robinson, 2014).

I conducted 17 semistructured, online interviews with self-identified ICT knowledge workers. Schram (2006) recommended having a range of five to 10 participants for a qualitative study, stating that a larger sample size may weaken an in-depth investigation of the phenomena under study. Determining a concrete number for sample size in advance is inherently problematic in more interpretative qualitative research forms. Data from the interview transcripts were analyzed through thematic analysis to identify themes. Researchers using thematic analysis should determine the sample size of interview studies by a mix of interpretative, situated, and pragmatic judgment (CITE). Researchers should then decide about the final sample size during data collection, shaped by the richness and complexity of the data for addressing the research question. Such decisions could and should be made within the process of data collection, reviewing data quality during the process and recognizing that sample size alone is not the only factor to consider (Sandleowski, 1995). Finally, themes emerging from the data analysis were triangulated with reflective field notes and archival data to support

findings' trustworthiness and make future research recommendations (Guion et al., 2011).

Definitions

ICT: Technologies used to handle telecommunications, broadcast media, intelligent building management systems, audiovisual processing and transmission systems, and network-based control and monitoring functions (Surawski, 2019).

Involuntary presenteeism (enforced presenteeism): When employees are forced to attend work while feeling ill (Luoma et al., 2020).

Knowledge worker: An employee possessing a high level of professional knowledge, education, or experience, and the creation, transfer, and practical use of knowledge are among the core tasks of their work (Davenport, 2005b).

Presenteeism: The measurable loss of productivity due to attending work with health problems (Ruhle et al., 2020).

Techno-overload: A situation under which ICT users are forced to work more than the typical workload at a more fast-paced speed (Variya & Patel, 2020).

Technostress: The stress induced by computer use felt by technophobia, confusion, fear, and anxiety (Brod, 1984).

Work productivity: The number of goods and services that workers can produce in a given amount of time (Zhao et al., 2020).

Assumptions

Researchers hold onto assumptions presumed to be true when extending a theory for a specific purpose (Halkias & Neubert, 2020). Assumptions are a fundamental

postulate of a study for the researcher to proceed in the investigation. In this study, the first assumption was that participants had sufficient knowledge, information, and understanding of the interface of technostress and ICT-induced presenteeism on their work productivity. A lack of understanding of the phenomenon would have made it impossible for the participants to discuss credible solutions.

The second assumption was that participants would provide genuine responses and truthful information. I expected that participants would not overstate their responses about their perceptions of the interface of technostress and ICT-induced presenteeism on their work productivity. I believed that participants were enabled to provide truthful responses (Bloomberg & Volpe, 2018). This assumption helped find solutions to the issue of technostress and ICT-induced presenteeism.

The third assumption was that the participants' decision to participate in the study was not just about helping a researcher undertaking a dissertation study but about the participant's legitimate interest in addressing the problem of the interface of technostress and ICT-induced presenteeism on work productivity. The fourth assumption was that the sample size would adequately represent the population of the participants of ICT knowledge workers. Adequate population representation was necessary to avoid a situation in which the study's result may be skewed, thereby rendering the study's findings and recommendations incapable of adequately addressing the study (Yin, 2017).

The fifth assumption was that data analysis would provide an opportunity for me to discover reliable, common themes regarding the interface of technostress and ICT-induced presenteeism on work productivity. I had to remain aware of my own biases

during data collection to ensure the data's trustworthiness, so that the themes in this case study research were deemed valid and reliable (Fusch et al., 2018). The sixth assumption was that sampling estimation bias would not occur in a way that disrupted the study. I prepared a reserve list of other qualified participants following Yin's (2017) best practices. The final assumption was that I would not experience barriers to accessing documents and archival data and that all secondary data would contain accurate information (Stake, 2010).

Scope and Delimitations

In this study, I focused on understanding the perceptions of knowledge workers on the interface of technostress and ICT-induced presenteeism on their work productivity. The study population was chosen to replicate the boundaries and scope of similar empirical studies on presenteeism in the ICT-infused workplace (Karanika-Murray & Cooper, 2018; Ruhle, 2020). A global recession led to an increased demand for greater productivity of knowledge workers, while advances in technology have precipitated the need for ICT knowledge workers to be *continuously connected* (Lee et al., 2017). Constant connectivity has led to knowledge workers experiencing technostress and involuntary presenteeism as a result of their employment. ICT knowledge workers have little or no training in coping with the overload of technostress required by involuntary presenteeism on their jobs (Karanika-Murry & Biron, 2020; Liu & Lu, 2020).

The sample for this study was delimited to participants recruited using purposeful, criterion and snowball sampling strategies and screened with the following inclusion criteria: (a) were adults over the age of 18, (b) had 3 years minimum of experience as ICT

knowledge worker, and (c) possessed knowledge regarding employment conditions in a technology-infused workplace (Robinson, 2014). The conditions in a technology-infused workplace include those in the ICT field, in which technologies provide access to information through telecommunications (i.e., telephone lines and wireless signals) and computers to software, storage, and servers allowing users to access, store, and transmit information (Christensson, 2010). Rigorous case study designs control theoretical variation outside the study's scope to establish transferability (Stake, 2010). The study results may have potential transferability to similar sample populations on how managers may support knowledge workers coping with technostress and the interface of ICT-induced presenteeism on employee performance and productivity (Karanika-Murray & Biron, 2020; Liu & Lu, 2020).

Limitations

Limitations are influences that the researcher cannot control as well as shortcomings in the design, study conditions, or restrictions on their methodology affecting results and conclusions (Tracy, 2019). A study's limitations are characterized by factors included in the design or methodology that impact or lead to a misinterpretation of the research results. When reviewing limitations that I believed may have influenced the results, I needed to characterize those factors in the study with clarity (Lincoln & Guba, 1985).

The transferability concept addresses certain limitations of qualitative research due to the degree to which results from a study can be retold and leveraged to another study or situation. Transferability applies context from the findings and results for

knowledge of comparison applicability and content bounding (Stake, 2010). Generalization of research findings is not the goal of qualitative research design; it is a method for gaining depth, meaning, and insight into a phenomenon or subject. The final decision or judgment about the study's findings' transferability is up to the reader; I needed to address transferability by clearly describing, defining, and documenting the study setting and boundaries (Stake 2010).

Purposeful sampling and snowball sampling are used to achieve the minimum number of appropriate participants preferred by scholars to provide an information-rich body of in-depth material pertinent to the study (Eriksson & Kovalainen, 2015). When evaluating qualitative research with small sample sizes, distinct environments, and unique experiences, the findings and conclusions may not be directly applicable to other studies and populations. I was only responsible for collecting the direct sources identified for a specific, qualitative study; therefore, the assurance of transferability of a study's inferences could not be conclusive (Stake, 2010).

Significance of the Study

Until the current decade, the study of absenteeism had focused on organizational performance objectives, and presenteeism had not been fully explored as a research topic (George et al., 2017). Although current research has advanced the understanding of presenteeism, this study may fill the gap where scant literature existed on supporting knowledge workers coping with technostress and how managers are usually underinformed about the interface of ICT-induced presenteeism on employee's performance (Karanika-Murray & Biron, 2020; Liu & Lu, 2020). This study is significant

because it contributes to the management field by providing an understanding of knowledge workers' perceptions of coping with technostress and ICT-induced presenteeism.

Significance to Practice

The study may help advance an understanding of knowledge workers coping with technostress overload and ICT-induced presenteeism, potentially extending the existing literature on how technostress affects productivity. Theoretical studies conducted with knowledge workers are critical to support managers' understanding of workplace stressors to establish organizational systems that may help mitigate technostress and resulting presenteeism (Lee et al., 2018). Occupational stress management interventions effectively treat stress-related complications and may alleviate what the World Health Organization dubbed as the "health epidemic of the 21st century" (Weerasekara & Smedberg, 2019). Effective management of presenteeism may reduce risks to human resource management, positively impact an organization's productivity, and help achieve a competitive advantage (Liu & Lu, 2020).

Significance to Theory

This study was significant because it added original, qualitative data to the theoretical literature on presenteeism in knowledge workers. Although researchers have investigated ICT-enabled technostress, there was minimal literature supporting knowledge workers coping with technostress, and managers know little about the interface of ICT-induced presenteeism on employee performance (Karanika-Murray & Biron, 2020; Liu & Lu, 2020). This study provided a theoretical view of how ICT

knowledge workers cope with technostress overload in an ICT environment of involuntary presenteeism.

Scholars have brought attention to presenteeism being a costlier problem than absenteeism (Evans-Lacko & Knapp, 2016). With presenteeism not being formally registered by occupational scholars, it had been difficult to determine its profound effect on organizations' human efficiency (Johns, 2011; Lohaus & Habermann, 2019). An explanation of why people choose presenteeism over absenteeism may provide management with a better understanding of how technology leads to ICT-induced presenteeism. This study is also significant because it extends knowledge related to theories supporting the study's conceptual framework.

Significance to Social Change

Understanding knowledge workers' experiences coping with technostress overload and ICT-induced presenteeism may affect social change where management provides knowledge workers support through a safe and productive work environment (Liu & Lu, 2020). Supported work environments may reduce the degree of technostress resulting from involuntary presenteeism and provide a work atmosphere that enhances productivity while reducing the level of health-related disorders (Karanika-Murray & Biron, 2020; Liu & Lu, 2020). Successful presenteeism adaption processes depend on management's workplace design of internal capacities and flexible work resources (Karanika-Murray & Biron, 2020). By providing sustainable support to aid employees with technostress, management may effectively manage presenteeism performance under impaired health. Organizational support provided with adequate resources can benefit

employees' health and performance while preserving the quality of their working relationships as they adjust to their health impairments (Ruhle et al., 2020). Management's understanding of how technostress overload leads to ICT-induced presenteeism and subsequently providing support allows employees working with health impairments to meet performance demands resulting in increased organizational performance (Karanika-Murray & Biron, 2020).

Summary and Transition

In Chapter 1, I provided the study's specific problem as being the perception of knowledge workers on the interface of technostress and ICT-induced presenteeism on their work productivity remains poorly understood (Lohaus & Habermann, 2019; Luoma et al., 2020; Zhao et al., 2020). The conceptual framework of this study was based on a combination of Johns's (2010) prescription for a theory of presenteeism and Lohaus and Habermann's (2019) decision-integrated model of presenteeism. In this qualitative, exploratory, single case study with embedded units, data were derived from semistructured interviews, reflective field notes, and archival data. The triangulation of these data sources helped me achieve trustworthiness in the findings. The findings provide a potentially significant contribution to the literature on presenteeism that will expand its practice and lead to positive social change.

In Chapter 2, I will provide the literature search strategy used and a review of current literature relevant to the study topic and supporting the conceptual framework, before concluding the chapter with a summary.

Chapter 2: Literature Review

The specific management problem under study was that the perception of knowledge workers of the interface of technostress and ICT-induced presenteeism on their work productivity remains poorly understood (Lohaus & Habermann, 2019; Luoma et al., 2020; Zhao et al., 2020). The ubiquitous nature of ICTs has permeated every aspect of people's lives (Lee, 2018). With rapid technological advancements occurring every day reshaping human's lives, technology is making an adverse intrusion into employees' health and work-life balance.

The purpose of this qualitative, single case study with embedded units was to understand the perceptions of knowledge workers on the interface of technostress and ICT-induced presenteeism on their work productivity. Constant connectivity through technology for ICT knowledge workers allows for ease of communication and improved productivity (Sang Hoon et al., 2017; Zhao et al., 2020). However, always-on accessibility comes with the increased cost of work stress (Kaushal, 2019). Although absenteeism has been rigorously studied in business for years, the detrimental effects of presenteeism have yet to be studied thoroughly. Involuntary presenteeism affects employees' work productivity and permeates an organization as employees arrive to work physically and emotionally absent (Cooper & Lu, 2016; Zhao et al., 2020).

In Chapter 2, I provide the literature search strategy in conjunction with the conceptual framework that guided the research. I also present a synthesis of the scholarly research and analysis of the literature on the interface of technostress and ICT-induced presenteeism on knowledge workers' work productivity within the context of the

technology-infused workplace, specifically focusing on involuntary presenteeism; the health versus performance factors of presenteeism; the work stress process of work stressors, coping, and outcomes.

Literature Search Strategy

The following databases used to conduct the literature review were accessed through the Walden University Library and Google Scholar: Emerald Insight, ABI/INFORM, Business Source Complete, Science Direct, Sage Premier, SpringerLink, EBSCOhost, ProQuest Central, and Academic Search Complete. I also used Google and DuckDuckGo search engines to locate peer-reviewed journal articles relevant to the study. Literary searches were conducted by identifying key concepts, searching for the key and related terms, and selecting appropriate databases.

I used the following key terms and a combination of search terms to find the literature. The number of results within each category with publication range from 2000–2020 are also listed. The range of years covers seminal paper publications and updated studies in the following subject eras: *coping with technostress* (3,570), *ICT* (1,760,000), *knowledge workers* (2,370,000), *presenteeism* (16,800), and *technostress* (7,730). Other search terms were: *constant connectivity* (5,740), *enforced presenteeism* (four), *eustress* (15,800), *information communication and technology* (507,000), *sickness presence* (1,070), *sickness presenteeism* (2,990), *strain* (2,000,000), *stressors* (661,000), *techno-stress* (1,790), *technostress creators* (459), *work-life conflict* (13,300), and *work overload* (21,500).

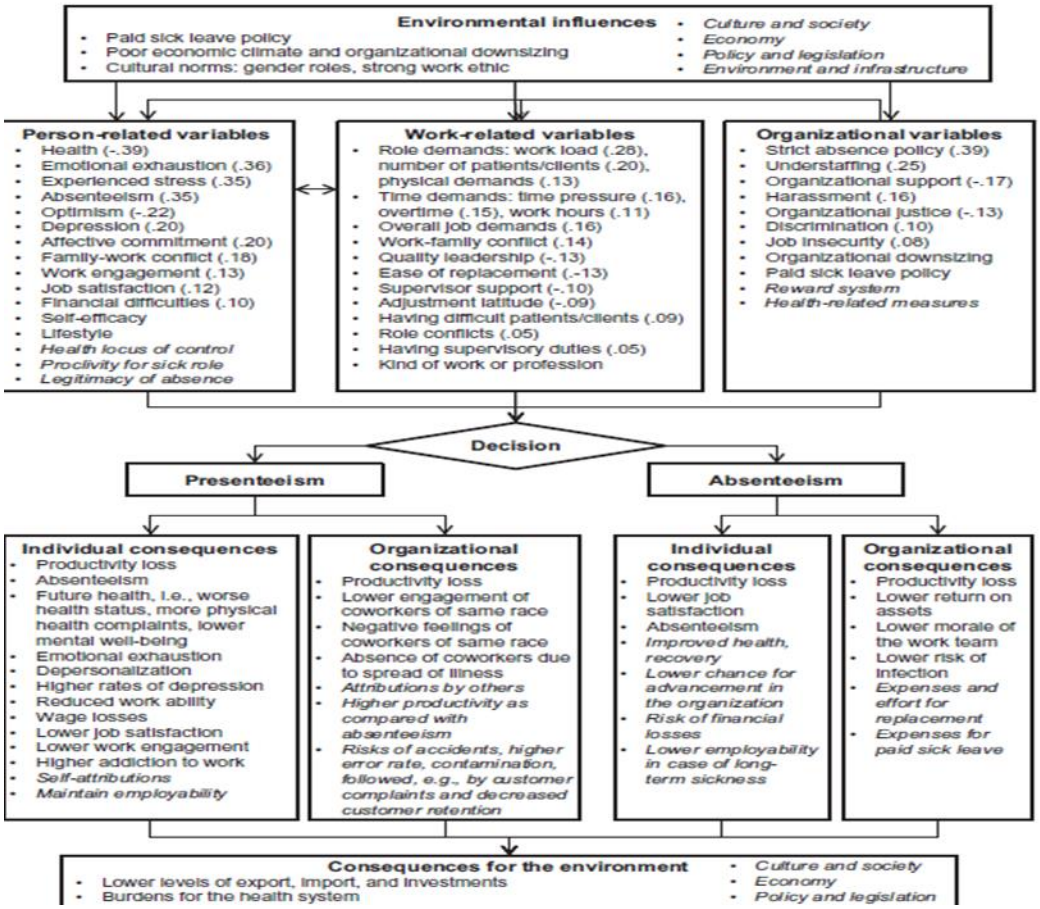
The terms used in the search related to the research method included *case study triangulation, qualitative study, sampling strategy, semistructured interview, and single case study.* I limited the search to peer-reviewed journals published within the past 5 years but including seminal works of literature and published books. Articles were checked through *Ulrich's Periodicals Directory* to confirm their peer review status (Grimes & Morries, 2006). The current literature and deductive arguments were instrumental in providing the study with the context regarding the topic.

Conceptual Framework

There is still little known about knowledge workers' experiences with the interface of technostress and ICT-induced presenteeism on their work productivity (Lohaus & Habermann, 2019; Liu et al., 2020; Luoma et al., 2020; Zhao et al., 2020). This study was framed by the concept of presenteeism developed by Lohaus and Habermann (2019) within their comprehensive presenteeism model, a decision-integrated model of presenteeism that clarified the distinction between causes and effects. Lohaus and Habermann's theoretical work on presenteeism is grounded in Johns's (2010) framework model of presenteeism. Lohaus and Habermann's comprehensive presenteeism model (see Figure 1) provided a framework that included concerning factors recommended for future research through experience sampling to explore the presenteeism tradeoff between health and motivation. Future research is required to establish which kinds of theoretical approaches to the decision-making process are useful for extending theory (Lohaus & Habermann, 2019). In this study, I explored the interface of presenteeism factors related to work productivity, as shown in Figure 1.

Figure 1

Lohaus and Habermann's (2019) comprehensive presenteeism model



Note. From "Presenteeism: A review and research directions," by D. Lohaus and W. Habermann, 2019, Human Resource Management Review, 29, p.43-58 (https://doi.org/10.1016/j.hrmr.2018.02.010). Copyright 2018 by Elsevier Inc.

While Johns (2010) did not incorporate a complete theory the framework model of presenteeism constituted the most comprehensive concerning pertinent variables. The author also detailed the critical variables of a presenteeism and absenteeism theory about

antecedents and consequences. In Johns's model, the applicable contextual variables covered were teamwork, job insecurity, absence policy, absence/presence culture, ease of replacement, job demands, reward system, and adjustment latitude. Johns proposed effects on self, productivity, other attributions, tenure, attendance, and future health regarding cumulative individual consequences. Relevant to personal factors, Johns referred to personality, stress, work attitudes, perceived justice, health locus of control, proclivity for the sick role, perceived absence, legitimacy, and gender (Thun & Løvseth, 2016). While Johns listed certain variables that could influence a choice between presenteeism and absenteeism, the decision-making process was not explicitly addressed (Fiorini et al., 2018).

In their model, Cooper and Lu (2016) addressed a gap in Johns's (2010) model by addressing the psychological factors at play in a worker's choice regarding presenteeism or absenteeism. The authors drew from social cognitive theory (Bandura, 1986, 2001) and self-referential thinking. A vital element of this theory is the assumption that a person's cognitive processes and a social situation, two components that impact each other, determine their behavior. To explain presenteeism, the authors considered the following social cognitive processes as necessary in this causal system: self-efficacy, outcome expectations, and goals (Cooper & Lu, 2016).

Concerning goal achievement theory (Grant & Dweck, 2003), Cooper and Lu (2016) differentiated between performance goals, focusing on outperforming others and mastery goals, targeting competency development. Based on this theory, the authors supported that individuals driven by performance goals will seek to avoid others' risk of

delivering an unfavorable evaluation. In contrast, those with mastery goals will pursue challenging situations. It follows then that the first can be expected to choose presenteeism to avoid others' disapproval, while the second will opt for presenteeism as a way to demonstrate their strength (Lohaus & Habermann, 2019). It appears almost certain that the future will see a continued increased strain on workers (Lohaus & Habermann, 2019). Considering that stress is generated by presenteeism itself (Liu et al., 2020) and that technostress is identified as a critical element triggering presenteeism (Luoma et al., 2020), there will be heightened numbers of cases of presenteeism as well as increases in the duration of demonstrated presenteeism (Liu et al., 2020; Luoma et al., 2020; Zhao et al., 2020).

Many organizations currently make it possible for employees to work remotely. Home-based offices could foster relaxation and drive down stress through personally arranged work schedules due to an absence of monitoring and control; however, the possibility to monitor computer usage of home-based workers via installed software could lead to added stress resulting in a negative impact on health and increased presenteeism (Lohaus & Habermann, 2019). The fact that managers cannot supervise home offices or take action when presenteeism is evident and organize sick leave to protect an employee's health could lead to a higher rate of hidden presenteeism. It is important to remember that home offices are related positively to work productivity and can include heavier workload, more intense work, and heightened strain, all elements that correlate with presenteeism (Miraglia & Johns, 2016; Zhao et al., 2020).

The comprehensive presenteeism model (Lohaus & Habermann, 2019) is also grounded in Cooper and Lu's (2016) theory of presenteeism in which contextual variables (i.e., social norms, organizational support, cultural values, and arrangements for replacement) are differentiated from personal variables and social-cognitive processes (e.g., personality traits, engagement in work, and gender). Contrasting with other models (Johns, 2011), Cooper and Lu's theory also incorporates the psychological mechanisms at play in the process, making it more comprehensive. In the theory, Cooper and Lu outlined the variables included in the process and detailed the variables' interdependencies and predispositions.

Literature Review

Theoretical Development of Presenteeism

Absenteeism in the workplace has experienced a long history of being researched by organizations, but the concept of presenteeism is new to scholarly concern (Ruhle et al., 2020). *Showing up to work ill* became a subject of interest due to the aggregate lost productivity experienced beyond absenteeism. It was thought that organizations would gain a competitive advantage by managing presenteeism in the workplace (Johns, 2010). Initially, the amount of literature available on presenteeism was scarce but was beset with scholars' varying definitions, making it difficult to conceptualize and measure. To gain clarification, an initial framework model of presenteeism was developed to define the term and propose a form of measurement based on organizational theory and practice (Miraglia & Johns, 2016).

In the initial presenteeism model, Nicholson's (1977) work was cited that contained a theory regarding absenteeism and a rationale of what precludes one to avoid work depends on the personal event (illness) itself (Johns, 2010). Therefore, the contextual constraints would predict the behavior or action taken when choosing between absenteeism or presenteeism. Continuing to forge a theory of presenteeism, tenets were provided that Johns felt should be included in the theory, such as recognizing health's subjectivity, accounting for the relationship between absenteeism and presenteeism, and refining the job insecurity thesis (Thun & Løvseth, 2016). Additionally, Johns felt the theory should include incorporating work attitudes and experiences, incorporating personality, and attending to its social dynamics, and Johns's resulting theory of presenteeism is considered seminal in the field (Lohaus & Habermann, 2019).

Expanding on Johns's prescription for a theory on presenteeism, contributions to the theory were made by integrating previous models and categorizing the contextual factors (Fiorini et al., 2018; Ruhle et al., 2019). No formal definition of presenteeism or form of measurement had yet been established to define the differences between absenteeism and presenteeism (Kim et al., 2020). A clear distinction was made between the causes and effects of presenteeism, and a definitive theory regarding human efficiency in organizations was developed (Liu & Lu, 2020).

As a global phenomenon, presenteeism has been studied worldwide, reporting rates as high as 90% (Lohaus & Habermann, 2019; Miraglia & Johns, 2016). Absenteeism and presenteeism are closely related to their shared health concerns and productivity losses, but their outcomes rest in a sole decision, to attend work ill or not,

and that decision rests entirely on the factors that influence their choice. Lohaus and Habermann's (2019) research led to the creation of a framework of a decision-integrated model of presenteeism. Presenteeism is generally accepted as more costly to organizations than absenteeism; however, a comprehensive literature review is needed to present the latest research on presenteeism and provide a more thorough definition and theory development (Karanika-Murray & Cooper, 2018).

There have been differing opinions from many sources (Liu & Lu, 2020; Ruhle et al., 2020). Most studies focused on general health concerns, but a more significant distinction needed to be made between the health factors leading to absenteeism or presenteeism (Lohaus & Habermann, 2019). Previous research has also focused on measuring lost productivity, but Johns, Lohaus, and Habermann contend it has to do more with than just consequences. Additionally, the term presenteeism had been met with opposition as it was associated with a negative connotation (Karanika-Murray & Biron, 2020). The researchers agreed that the term should not be viewed only negatively when positive aspects attributed to it, such as working while sick, might help make someone feel better than staying home (Lohaus & Habermann, 2019; Yin & Lu, 2015).

There was a need for a theory of presenteeism to explain why people choose presenteeism over absenteeism (Nordenmark et al., 2019). Lohaus and Habermann (2019) research separated approaches between *content theory* and *process theories*. It stated that most of the existing models that had been presented on presenteeism had been content models that distinguished influence factors such as person-related aspects and context-related aspects that were job-related. Content models were felt not to incorporate

all aspects; only the relationships between variables they researched were considered incomplete theories. Process theory models focusing on the decision-making process resulted in only one model referred to as an integrative decision process resulting from tensions between employees and supervisors. Focusing only on the relationships between employees and supervisors was too limiting and did not incorporate other factors in the decision process (Yang et al., 2016).

After exhaustive research, a thorough theory of presenteeism incorporated all aspects and situations applicable to work-life based on Johns's (2010) framework model was constructed (Lohaus & Haberman, 2019). Using Miraglia and Johns's (2016) meta-analysis for theory development, the model categorized contextual factors into three groups (person-related, work-related, organizational) and subdivided factors into more distal (such as environment, i.e., culture, economic, societal) and proximal factors relating to work and the organization (kind of work, work profession, working conditions). The significance of adding the pertaining factors has resulted in the most comprehensive framework for a theory of presenteeism to date, which is meant to inspire more empirical research because, as Johns (2010) stated, "… the presenteeism phenomenon is too interesting and too important for theoretical and practical reasons to be left in the sole hands of medical researchers and health care consultants" (p. 537).

Recent Research on Knowledge Workers and the ICT Workplace

Technology has infiltrated all aspects of our society, and the immediate need to communicate and exchange information has led to the creation of a new labor group called *knowledge workers* (Surawski, 2019). Although there are varying definitions for

the group, Drucker (1952) was the first to define a knowledge worker as someone who possesses, utilizes, and creates valuable knowledge. As labor has moved from farms to automated factories to knowledge workers, the shift in work nature has led to creating a knowledge society (Turriago-Hoyos et al., 2016). At the height of this transition, Drucker believed it was knowledge workers who would be the biggest challenge of the 21st century (Iazzolino & Lines, 2018).

With a workforce transitioning into the Information Age from the Industrial Age, Davenport defined knowledge workers as those who possess a high level of professional knowledge, education or experience, creation, transfer, and practical use of knowledge (Surawski, 2019; Issahaka & Lines, 2019). Davenport listed categories of knowledge workers in the book *Thinking for a Living* (2005b) based on the United States Bureau of Labor Statistics in management, business and financial operations, computer and mathematical, architecture and engineering, legal, and healthcare practitioners. Knowledge workers typically have the most influence on economies, are paid the most, and add the most economic value to organizations. Advanced economies require knowledge workers to manipulate knowledge and information to keep pace with evolving economic markets (Davenport, 2005b).

Even though Drucker (2002, 1999, 1995) and Davenport (2005a, 2005b, Davenport et al., 2002) are the literature's most cited authors on the definition of knowledge workers, other authors have their methods for characterization. Brinkley (2006) defined knowledge workers based on the International Standard Classification of Occupations in Groups 1-3 (Managers, Professionals, or Associate Professionals).

Another study also characterized knowledge workers as having high-level skills with university degrees or qualifications and those who perform tasks requiring expert thinking and communication skills involving ICT (Surawski, 2019). Some authors' definition of knowledge workers arises from the Human Resource perspective, where knowledge workers possess competencies such as being a team player, can identify with the company, are involved or enthusiastic, and have learning abilities (Juchnowicz, 2007, in Surawski, 2019).

Other human resource perspectives characterize knowledge workers as *gold-collar* workers who, termed by Kelly (1985), are an elite segment of white-collar workers in the knowledge economy who are not concerned with unemployment, who work for substantially high pay, and who perform tasks using their brain with an "exceptional combination of knowledge and intelligence" (Surawski, 2019, p.113). This segmentation has placed knowledge workers in a different class in the 21st century labor market, distinguishing them from the general *white-collar* workers of management, hired professionals, and retail and office workers from the turn of the 19th and 20th centuries (Mills, 1951).

What sets knowledge workers apart from other white-collar workers lies in their ability to think and process information and the nature of their work environment (Issahaka & Lines, 2019). To compete in a knowledge-based economy, a knowledge worker's role is to create new value through creativity and through their ability to develop new products, services, or ideas (Shujahat et al., 2019). Creativity is essential for innovativeness and competitiveness. While it is the goal of knowledge workers to create,

it is the management's responsibility to provide and support a work environment that is traditionally hard to quantify. Knowledge workers perform in an environment where management no longer has direct control over their output, and indicators of success materialize long after a project is complete (Igielski, 2015).

Transitioning to a knowledge economy has led to unstructured work environments where knowledge workers are now in charge of planning, developing, and executing assignments in a world used to scientific measurement of output (Iazzolino & Laise, 2018). In a knowledge-based world, the central means of production is intangible. Knowledge workers have become human capital based on the skills, knowledge, competencies, attitudes, and motivation they bring to an organization. However, tacit capital cannot be "captured and codified" by management (Kianto et al., 2016).

The digital transformation of the workplace and daily life in general after 2000 has also affected how knowledge workers perform their job (Bienkowska & Ignacek-Kuznicka, 2019). Increased autonomy, decentralization of authority, and increases in teams and networks have led to ambiguity in the workforce roles for knowledge workers as the workplace environment changes to meet a digital economy's demands. Knowledge workers in the ICT field face increased role ambiguity as the very nature of their work precludes traditional means of management, and it is common today for knowledge workers to work remotely with limited supervision leading to role stressors that result in counterproductive behaviors (Nelson et al., 2017; Varghese & Barber, 2017). Job demands at remote worksites often require knowledge workers to fill multiple roles while causing contradictory, incompatible, or incongruent role conflicts. Although advances in

technology have presented greater freedom for knowledge workers to perform their jobs, at the same time, they have required greater responsibility (Carpenter & Lertpratchya, 2016).

The workforce has experienced a technological shift into an information-based society where the importance of ICTs is central to all aspects of social, economic, and political life (Turriago-Hoyos et al., 2016). Advances in information and communication technologies have revolutionized global business practices where knowledge workers' information has become a source of competitive advantage. An investment in knowledge workers is considered a competitive weapon in today's organizations leading to a sustainable advantage (Iazzolino & Laise, 2018). Integral to knowledge work, employees must have access to and support from information and communication technologies. A knowledge worker's ICT role in the digital infused workplace is to generate, share, and apply digital knowledge within the core of daily work tasks (Shujahat et al., 2019).

Knowledge Worker's Experience with ICTs and Technostress

Implementation of ICTs in the workplace has enhanced communication and increased production in organizations; however, it has led to a phenomenon affecting knowledge workers known as *technostress* (Brod, 1984). Technostress results from workers' stress from using ICTs, and organizations are starting to realize how it affects their workforce. *The Global Risks Report 2018* listed the *adverse consequences of technological advances* as one of the top risks societies face today (World Economic Forum, 2018). Workers often have difficulty evaluating the fit between themselves and their work environment and have difficulty coping with the unfamiliar. Constant

installations, upgrades, and exposures to ICTs result in the destructive organizational effects of technostress information workers. Whether it is termed technostress, techno-stress, technophobia, techno addition, or eustress, it affects workers' health and productivity (Zhao et al., 2020).

Knowledge workers have little or no training in coping with the overload of technostress required by presenteeism on their jobs (Karanika-Murray & Biron, 2020; Liu & Lu, 2020). Technostress creators such as techno-overload, techno-invasion, techno-complexity, techno-insecurity, and techno-uncertainty all play factors in a worker's reaction to technostress and in their choice between being absent or attending work ill. Stress associated with ICT causes a psychological response manifested by a physical and biological state of arousal. This psychological reaction is a concern for the employee and their families and their firm when adverse health problems occur due to technostress (Gaudioso et al., 2017).

In the case of knowledge workers, the constant use of ICTs is central to their work role, causing them to suffer the adverse outcomes of technostress (Nelson et al., 2017). Work demands communicated through multiple forms of ICTs lead to the perception of work overload with feelings of constant irritation, higher work pressures, information fatigue, job burnout, and perceived distress. A study by Gaudioso et al. (2017) on technostressors attempted to explain how techno-invasion and techno-overload translate through strain facets and coping strategy choices into adverse workplace outcomes such as work exhaustion. The study intended to understand the mediating mechanisms to develop interventions to alleviate adverse outcomes. The study results found that the

effects of technostressors on adverse job outcomes are mediated through strain facets and coping strategies. Therefore, the study results indicated the importance of management to consider the interplay of stressors, strain, and coping strategies among employees and the importance of intervening upon these factors to reduce technostressors in the workplace.

Alam (2016) presented another study emphasizing how technostress affects productivity. A global recession in the aviation industry necessitated productivity improvements through superior technology to help cut costs. Alam's study aimed to show the linkage between technostress and crew productivity and the interaction effect of role-overload and equity-sensitivity using the factors of techno-complexity, techno-uncertainty, and techno-overload. The study results indicated an inverse relationship between technostress and crew productivity, strengthening when the crew experiences role-overload with different jobs and discriminatory treatment. Therefore, if the aviation industry is to consider adopting advanced technologies in the future to help cut costs, management must take into account how technostress and role-overload affect their crew's productivity.

There are other ways to experience technostress than just work-overload; it can be felt in the ever-increasing standards to do more with less utilizing ICTs (Evenstad, 2018). *Ephemeralization*, an accelerated increase in achieving the same or more in less time, has become the new norm, and ICT knowledge workers are especially vulnerable. The perceived stress associated with an accelerated increase in the efficiency of achieving the same or more output while requiring less input may lead to mental health problems such as stress and burnout. Evenstad (2018) provided a prospective study on acceleration and

ICT workers. The study's ICT workers experienced acceleration from constant time pressure, work intensification, hyperconnectivity, frequent organizational changes, short-termism, and rapid technological changes. The workers suffered from stress, burnout, and work-family conflicts while feeling alienated and dehumanized at work. The study confirmed the results of research on burnout in the ICT sector.

While *doing more with less* has become a standard in the digital age, general workplace activities such as emailing, text messaging, and phone calls may lead to technostress where knowledge workers either feel compelled to respond immediately or are overwhelmed by the obligation of the load (Stich et al., 2017). Technology-ladened environments, such as the ICT field, rely heavily on emailing and messaging to exchange information in face-to-face communication, such as telecommuting or working with virtual teams. Scholars suggest that telepressure results from the undue stress placed on knowledge workers to respond quickly to messages from clients, coworkers, or supervisors. Stress and recovery literature suggests telepressure interferes with work recovery time and stress-related outcomes (Barber & Santuzzi, 2015).

Regarding telepressure and workload, Stich et al. (2018) conducted a study investigating the relationship between an individual's email load, workload stress, and desired email load. The results of the study indicated that a higher email load is associated with increased workload stress. Higher workload stress is associated with lower desired email load, lower desired email load associated with lower email load, higher workload stress associated with higher psychological strain, heightened negative emotions, and lower organizational commitment. The results suggest that management

should regulate employees' email load to prevent negative workplace stressors that ultimately affect productivity (Stich et al., 2018).

Literature suggests that constant exposure to electronic connectivity systems affects knowledge workers by triggering an emotional and physical reaction to the stimuli, often resulting in adverse outcomes (Luoma et al., 2020). Even though information and communication technologies create value in their utilization, the caustic nature of constant exposure and the pressure attached from their usage generates counterproductive behaviors, affecting productivity and the quality of life for knowledge workers. Knowledge of technostress's adverse effects prompts management to devise support systems to help relieve knowledge workers from the barrage of technostressors, thus reducing the degree of presenteeism experienced in the organizations. (Zhao et al., 2020).

Work/Life Imbalance of Constant Connectivity

Work/life balance is a growing concern for knowledge workers living in a world of *constant connectivity* (Kaushal, 2019). The proliferation of ICTs in the workplace adds to the *volatile, uncertain, complex, and ambiguous* age of a digital economy. Constant connectivity through ICTs has led countries worldwide to evaluate what degree of connectedness is appropriate for workers to remain productive and maintain a healthy work-life balance. Organizations are contemplating what expectations they place on knowledge workers concerning work roles and what technological boundaries should be established to prevent adverse health-related outcomes emanating from technostress (Ciolfi & Lockley, 2018).

Stress emanating from constant connectivity takes such a toll on employees' health and productivity that federal legal statutes are being introduced to protect employees' sanctity of personal time (Marcum et al., 2018). The court system is trying to respond, competing with aging statues and advancing technologies, when society is experiencing rapid degeneration of health and welfare resulting from a lack of mental downtime. A significant work/life case, *Allen v. City of Chicago*, was filed as a civil suit in 2017. A member of the City of Chicago's Police Department, Organized Crime Bureau, brought suit with 51 other bureau members because compensation was not provided for time spent on their BlackBerry devices outside of working hours (Marcum et al., 2018). The United States Court of Appeals, Seventh Circuit, found in the defendant's favor, stating that the plaintiffs could have reported the Bureau's overtime. As advancements in technology have significantly altered the balance between work and home life, notices of economic productivity, social well-being, equality, and inclusion have been called into question (Collier, 2016).

The techno-invasion of constant connectivity, where workers are continuously available to work requests, often invades home life where work/life balance can be affected (Brivio et al., 2018). Imbalances in work/life, together with poor coping skills, causes knowledge workers to face health issues leading to presenteeism. How people perceive work and private time is becoming a fundamental quality of life when the balance between work and family results in pressure. If a workforce is not healthy and well adjusted, an organization cannot expect them to be productive. Literature suggests

that individuals affected by work-family conflicts exhibit poor job behavior, inefficient work conduct, and experience physical and behavioral deterioration (Ee et al., 2017).

The *always-on* mentality blurs the boundaries between work and home life, leading to technostress and presenteeism (Yin & Lu, 2015). Omnipresent networks allow for knowledge workers to access information at any time of the day, increasing workers' stress by not allowing employees to take a break from their work. The American Psychological Association's 2016 survey *Stress in America: Coping with Change*, conducted by the Harris Poll, estimated that 86% of adults check their email, texts, and social media accounts often (American Psychological Association, 2017). Adding to the blurred boundary lines is a trend known as *IT consumerization*, where workers are using their personal ICT devices (smartphones), social media applications like Facebook, and file sharing applications such as Dropbox or LinkedIn at work (Junglas et al., 2019). The idea to allow the use of private ICTs is to provide workers the ease of use to boost productivity and strengthen social and business relationships, regardless of whether knowledge workers check their personal email and social media accounts during work or check their work emails while at home, their drive to stay connected blurs the boundaries between work and home life (Ee et al., 2017).

Knowledge workers also experience blurred work/life boundaries when performing multiple roles (Ee et al., 2017). Work/life balance conflict often is experienced in a *gig economy* where knowledge workers usually take on short-term work assignments or contract jobs requiring constant connectivity. The very nature of *gig work* requires knowledge workers to maintain constant accessibility, whether working on

another job or at home, impacting both work and family life roles. Knowledge workers want to work and earn a living, but they face conflict when they also want to spend quality time with their children or family members. Multitasking requires the right balance between each of the four quadrants of life – work, family, society, and self. Still, it often results in discomfort and fatigue from a lack of coping mechanisms to combat the technostress of being constantly connected (Brivio et al., 2018).

Termed the borderless workplace, knowledge workers may leave the office but never leave their work because of the besiege of electronic communications from clients, colleagues, and superiors at all hours of the day, including nights, weekends, and holidays. Although this technology intrusion may seem invasive, how knowledge workers *approach* their work/life balance through technology may affect their response. A study by Ciolfi and Lockley (2018) explored the technologically mediated practices of work/life balancing, blurring, and boundary-setting of a cohort of professionals in knowledge-intensive roles in Sheffield, England. The aforementioned qualitative study found that the professionals observed in the knowledge-intensive roles devised diverse strategies for handling work and non-work, and how boundary dissolving and work/life blurring, not just boundary setting and balancing, became essential resources. The study also indicated that *boundary sculpting* (degree of how much you separate work and life) not only pertains to the invasion of work onto life, but life onto work, and the need to establish, soften, and dissolve boundaries is necessary when personal life seeps into professional life (Erickson et al., 2019).

How much control knowledge workers have on *when, where, and how* they work may affect their work/life balance (Loeschner, 2018). A study by Kausal (2019) sought to determine the association between factors causing work stress (work autonomy, work ambiguity, task variety, work schedule flexibility, work support, and work role overload) and work/life balance of IT professionals, and the most influential stress-related factor affecting the work/life balance of IT working professionals. The study results indicated that all of the presented work-related variables were found to have a strong relationship with work/life balance for the IT professionals. Kausal concluded that employees who have the liberty to plan and execute their work probably have high work/life balance than those who enjoy less autonomy (Parker et al., 2017). The study also indicated that the most influential work-related variable for IT professionals was *work support* from supervisors or co-workers who act as a buffer to help cope with stress (Kaushal, 2019).

Finally, mobile information technology devices may be the key to work/life balance (Adisa et al., 2017). A study by Adisa et al. (2017) examined the role of mobile information technology devices (MITDs) on employees' work/life balance. The study results found that flexibility, a core tenet of work/life balance, is one of the outstanding benefits of MITDs in terms of work/life balance and that flexible working patterns are essential in achieving work/life balance. Consequently, even though the study indicated flexibility through MITDs allows for the achievement of work/life balance, the increase in working hours due to MITDs can also encroach on personal time and strain family relationships (Jeong et al., 2019).

Coping and Appraisal Process From Technostressors

Technostress results from the inability to cope with computer technologies safely (Khan & Mahapatra, 2017). Knowledge workers face technostressors through *technostress creators* and *technostress inhibitors*. Technostress creators derive from work stressors such as techno-overload, techno-invasion, techno-insecurity, techno-complexity, and techno-uncertainty. Technostress creators occur from the conflict between organizational and individual demands and lead to workers feeling strained from technology use or overuse. However, technostress inhibitors are organizational mechanisms used to minimize the strain caused by technologies, thus allowing workers to cope with the technostress creators. Techno-stress inhibitors include mechanisms such as literacy facilitation, technical support, end-user involvement, innovation support, coworker support, and support manuals (Tarafdar et al., 2019).

Technostress creators appear to affect knowledge workers in different ways (Zhao et al., 2020). Existing research suggests that some technostress creators positively affect work performance, while others negatively affect it. The transactional theory of stress by Lazarus and Folkman (1984) states that performance outcomes are achieved through an appraisal and coping process. It is in the appraisal outcome of a stressful demand that determines what coping strategies are to be adopted, which leads to different performance outcomes. Stressful demands can be appraised as a challenge or an obstacle, depending on the assessment of gain or loss. A study by Zhao et al. realized these inconsistencies where problem-focused and emotion-focused coping strategies mediate the influence of

challenge and obstacle appraisal outcomes on ICT-enabled productivity (Upadhyaya, 2020).

To further explore problem-focused and emotional-focused coping strategies and appraisals, a study examined mobile application users' coping strategies after highly adverse incidents (Salo et al. 2020). The study examined how adverse IT incidents affected users' navigation among problem-focused coping strategies, emotion-focused coping strategies, and appraisals. Examples of problem-focused coping strategies are time management, avoiding the problem, or asking for support. Emotion-focused strategies focus on healing the emotions, such as meditating, journaling, reframing, or positive thinking. The study results suggested that the coping process transverses different routes and sequences and that it is not a straightforward process of evaluation using only one coping strategy. Coping relates to many routes occurring in sequences that involve a mixture of problem and emotion-focused strategies, thus supporting Lazarus and Folkman's theories (Mustjoki, 2020).

Additionally, age seems to play a factor in either problem or emotion-focused coping strategies (Chen et al., 2018). A study by Chen et al. (2018) demonstrated where older adults were found less likely to use problem-focused coping strategies than younger adults and reported lower levels of positive affect. Problem-focused coping, where the stress source is located and removed, mediates the relationship between age and positive affect (affective well-being). Chen et al.' s (2018) study aligned with Folkman et al.'s 1987 study that determined younger adults were more likely to use problem-focused coping strategies. Older adults were more likely to use emotion-focused coping

strategies. Emotion-focused coping strategies are considered maladaptive strategies leading to mental health problems such as depression and anxiety. This result supports Lazarus and Folkman's (1984) transactional model of stress and coping that suggested age differences affect coping strategies due to changes in what people cope with as they age (Nieto et al., 2020).

Existing literature provides various approaches to cope with technostressors creators and implement technostress inhibitors (Pirkkalainen et al., 2019). For example, Pirkkalainen et al. (2019) provided a study suggesting two coping behaviors to combat technostress, *proactive and reactive coping*. Proactive coping behaviors result from workers prepared to deal with ongoing stressful situations, such as gaining new IT skills and remaining positive regarding the experience. Reactive coping behaviors occur in response to stressors, such as venting emotions regarding IT and distancing the stressors. The study results indicated that IT users can mitigate technostress through both proactive and reactive coping measures. The study's results suggested that through positive reinterpretation and IT control, IT users are affected by the extent to which reactive coping behaviors are significant and positively influence IT-enabled productivity (Salo et al., 2020).

Another study regarding coping strategies examined the effects of flexible working conditions and employee health through *engagement (active coping) and disengagement (avoidance coping)* responses (Deci et al., 2016). Flexible working conditions, such as those experienced by ICT knowledge workers, place increased demands on employees, requiring self-regulation with the sole responsibility of goal

attainment. These flexible working conditions may lead to a self-endangering strategy of working while ill (presenteeism) meeting self-imposed goals. The study results suggested that self-endangering strategies positively affected emotional exhaustion and psychosomatic complaints above that of engagement and disengagement coping strategies, work demands, and work resources (Baethge et al., 2019).

How a knowledge worker chooses to cope with technostressors, whether through cognitive, emotional, or behavioral reactions, is a determinant of that stressor on the individual and determines if they stay healthy or become ill (Dettmers et al., 2016). As an active behavioral reaction to excessive work demands, self-endangering work behavior is a form of active coping. When confronted with high work demands, workers actively coping will continue trying to achieve their work goals despite facing ongoing constraints; these detrimental behaviors may impair their well-being and health. Furthermore, once the self-endangering work behaviors become established to meet the excessive work demands, the overtaxed goals become stabilized. The organization then perceives it legitimized, and the cycle of stressors becomes permanent (Knecht et al., 2017).

Technostress costs organizations' resources and threatens their workforce's well-being (Weinert et al., 2019). Organizational leaders need to understand and manage employees' stress by providing mechanisms to moderate technostress creators' effects. How ICT knowledge workers respond to technostress, either through proactive or reactive coping, determines how organizations can help restore the balance between the user and their environment. Since stress stems from the psychological reactions to

technostress creators, understanding the emotions behind the behaviors can provide a foundation for effective managerial interventions (Sarabadani et al., 2020).

Presenteeism and Absenteeism: Definitions and Adverse Employee Outcomes

Literature has provided documentation where overcoming stress requires coping, and researchers have found that many workers display poor coping skills and low work productivity with ICT-enabled presenteeism, resulting in technostress overload and adverse employee outcomes (Lee et al., 2018; Variya & Patel, 2020). With the physical and psychological well-being of a workforce being vital to an organization's health, labor is the most crucial resource for attaining a competitive advantage. An employee's decision to stay home due to illness (absenteeism) has historically been a subject of concern for management, as time spent away from work reduces productivity levels. However, recent research has revealed that employees are increasingly deciding to attend work while ill (presenteeism) instead of staying home, becoming management's more significant concern as costs associated with presenteeism exceed absenteeism. (Evans-Lacko & Knapp, 2016).

Defining presenteeism has been a challenge that researchers have struggled with since Johns first explored the phenomenon in 2010 (Ruhle et al., 2020). Most definitions originated in the medical field, where productivity was based on employees' adverse health outcomes. Still, there has been an initiative to obtain commonality in definition among all fields of work. The delineation in definitions exists where presenteeism is based on productivity losses or employees' specific health concerns. Also, there are differences in terminology internationally where presenteeism is termed in some

countries as *sickness presence or sickness presenteeism,* and absenteeism is termed as *sickness absence* (Fiorini et al., 2018). Ultimately, the foundation of presenteeism consists of employees choosing to attend work while physically or emotionally strained (Gerich, 2019).

The choice between absenteeism or presenteeism is an under-researched topic requiring a greater understanding of the underlying reasons why workers choose to stay home or attend work while ill (Miraglia & Kinman, 2017). There are many factors involved in the decision-making process stemming from determinates, such as financial considerations, level of physical or emotional impairment, low job control, or the degree of support from either co-workers or supervisors. A seminal study by Miraglia and Johns (2016) examined the causes and correlates of presenteeism by quantitatively summarizing existing research and compared the analysis of presenteeism versus absenteeism. The study results indicated that job demands and job and personal resources prompted presenteeism through health impairment and motivational paths, with more variation in presenteeism than absenteeism. The study also discovered both positive and negative underlying presenteeism (Jensen et al., 2019).

Financial considerations tend to affect knowledge workers' decisions between choosing absenteeism or presenteeism to a greater extent due to the nature of their non-traditional work environment (Luoma et al., 2020). Knowledge workers in a digital economy often take temporary work or contracted *gigs* lacking permanent employment's financial stability. Additionally, downsizing and layoffs during times of economic crises also create job insecurity for permanent employees. A Korean study by Kim et al. (2020)

examined whether perceived job security was associated with absenteeism or presenteeism and how these associations varied when the differential cutoff of time was applied. Significant associations were made between job security and presenteeism when the number of days remaining ill (regardless of being absent or present) increased from 2-7 days. The results indicated that workers who felt insecure did not take sick leave out of fear of being dismissed, choosing presenteeism over absenteeism (Zhang et al., 2020).

Another determinant affecting productivity that has provided significant results related to presenteeism is the degree of support employees receive at work (Zhou et al., 2016). Support from supervisors or coworkers affects how workers perceive their ability to take time off work when feeling ill. Schmid et al. (2017) investigated associations between supportive leadership behavior (SLB) and presenteeism/ absenteeism, with cost estimates. The study results indicated that lower levels of SLB were associated with higher presenteeism and absenteeism, indicating that SLB not only affects both, but higher SLB can reduce the costs associated with lost productivity. Moreover, a Chinese study by Yang et al. (2019) examined the mediating effect of distributive justice (fairness of reward allocation in an organization) on associations between supervisor support, coworker support, and presenteeism. The study results revealed that adequate coworker and supervisor support enhanced distributive justice and reduced presenteeism, fostering workers' efforts to cope. Whether based on financial concern, physical impairment, job control, or social support, knowledge workers make choices based on evaluating their environment, whether to be absent or attend work ill. Understanding how and why

workers choose, management can prevent adverse employee outcomes and maintain work productivity (Lohaus & Habermann, 2019).

Effects of Presenteeism: Personal Health Versus Work Productivity Factors

Considering that workers display high levels of anxiety in evaluating the fit between themselves and their work environment, strategies are needed to prevent employee technostress within ICT-infused workplaces where constant presenteeism is required (Tarafdar et al., 2019). Stress takes a toll on knowledge workers' physical and mental health when technology-enhanced productivity measures cause an imposed strain. The hidden cost of working when sick is evidenced in the rising statistics on ICT-induced presenteeism. According to research reports, the prevalence of presenteeism in countries worldwide varies from 30% to more than 90% (Lohaus & Habermann, 2019).

Existing literature distinguishes between health distress levels and choice between absenteeism and presenteeism (Ruhle et al., 2020). Although initially, presenteeism may seem a better option for an organization's productivity than absenteeism since the employee is present, hidden costs associated with being present despite being ill can cause more harm than good. Employees who attend work while ill may commit errors more frequently tend to have lapses of judgment, have lower productivity levels, and experience greater exhaustion and burnout levels. Still, there may be positive consequences of employees showing up ill, such as with an employee with chronic illness working through a treatment program (Karanika-Murray & Biron, 2020).

What constitutes health-induced productivity output can be identified by an employee's ability to cope with their environment (Fay et al., 2019). Perceived work-role

stressors affect employees differently, causing one to feel motivated and one to feel emotionally drained. For example, Keeler and Webster (2018) researched how to work role stressors, such as role ambiguity, conflict, and overload, associated with bottom-line mentality (BLM). The study's objective was to raise awareness of how these work role stressors psychologically wear down employees, thus taking away productive mental resources to cope with the stressors. The study's results, explicitly addressing role ambiguity and role conflict found that they significantly supported BLM. As work role stressors continue, the constant cognitive war between the employee and their job depletes the person's mental health over time because of the cognitive resources required to cope with the frustrations, ultimately affecting their general health. The BLM ignores the silent costs associated with employees' health outcomes at productivity (Zhang et al., 2020).

Baeriswyl et al. (2017) emphasized the detrimental health effects resulting from sickness presenteeism-constrained productivity. The authors hypothesized that sickness presenteeism (conceptualized as active and problem-focused coping) would partially mediate the relationship between work characteristics (workload and coworker support) and emotional exhaustion. A potential interaction between workload and coworker support was also examined, hypothesizing that a combination of high workload and low coworker support would produce the highest sickness presenteeism levels. The study results indicated that the effects of coworker support and workload on emotional exhaustion were full to partially mediated by sickness presenteeism, yet no support was found of the proposed interaction effect (Ferreira et al., 2019).

Long-term presenteeism practices run the risk for future risk-averse health events such as cardiovascular disease and mental health problems such as anxiety and depression (Miraglia & Kinman, 2017). According to the World Health Organization's Global Burden of Diseases, depression is the leading cause of disability worldwide and contributes to the disease's overall global burden (James et al., 2018). Depression is the most significant contributor to productivity losses, affecting the overall economy, affecting concentration, producing fatigue, and disrupting sleep. The financial impact of depression on workplace productivity across eight diverse countries, estimating the extent and costs of depression-related absenteeism and presenteeism. A recent study indicated that South Korea had the lowest mean annual per-person costs for absenteeism at $181, and Japan had the highest at $2,674. However, presenteeism costs per person were highest in the United States at $5,524 and Brazil at $5,788. Overall results indicated that depression impacted workplaces across all eight countries examined, both in monetary terms and concerning the proportion of the country's gross domestic product (Evans-Lacko & Knapp, 2016).

While most presenteeism cases center around adverse health effects, there are also beneficial aspects of working while ill (Karanika-Murray & Biron, 2020). Through purposeful and adaptive behavior, employees may balance their health constraints and performance demands through organizational support. Many encouraging recent studies such as by Cote et al. (2020) and Dietz et al. (2020) suggest mediated organizational support may make a difference in productivity and employee health where presenteeism is concerned. Cote et al.'s study found that an employee's feeling of being supported by

the organization made a difference in job satisfaction, increasing work engagement. Dietz et al. discovered an association between a leader's health-related behavior and an employee's health-related behavior, where employees mimic the leader's behavior. These are just two examples of recent studies that reflect how organizational support can mitigate presenteeism's health-related determinants.

It is essential for management to understand the silent costs associated with employees' health in reaction to workplace stressors, as provided by a four-year review study of presenteeism data in a healthcare system (Allen et al., 2018). Because indirect health-related costs are hard to measure and often go unseen by employers, the review's efforts attempted to shed light on the costs of impaired productivity through a lens of presenteeism. The study indicated that the health conditions with the highest estimated daily productivity loss and the annual cost per person were chronic back pain, mental illness, general anxiety, migraines or severe headaches, neck pain, and depression. Organizational support to moderate the effects of workplace stressors that cause adverse health outcomes can positively impact productivity and promote worker well-being (Cote et al., 2020).

Managerial Support of ICT-Induced Presenteeism: Literature Gaps

Despite the prominence of ICT-enabled technostress in organizations, there is a gap in the literature on supporting knowledge workers coping with technostress, and managers usually know little about the interface of ICT-induced presenteeism on employee's work productivity (Karanika-Murray & Biron, 2020; Liu & Lu, 2020). Beginning with a study by Nyberg et al. (2008), the topic of managerial support has since

been an understudied approach to presenteeism. Nyberg et al. investigated the relationship between managerial leadership and self-reported sickness absence/ presenteeism among Swedish men and women. The study results found that inspirational leadership was associated with a lower rate of short spells of sickness absence, less than once a week, for both men and women. Autocratic leadership is presented with an increased amount of total sick days taken by men. When leadership only *sometimes* displayed integrity, it led to higher rates of presenteeism for men. When leaders *seldom* showed integrity, women experienced higher rates of presenteeism. Therefore, managerial leadership was relevant for understanding presenteeism, displaying distinctive gender differences (Schmid et al., 2017).

Although there is little research on presenteeism's antecedents, there is increasing evidence that managerial support obtained through either leadership behavior, social support, or job design is a leading factor (Lohaus & Habermann, 2019). Supportive leadership behavior entails behavior that supports employees through active involvement in resolving difficult situations and being open, honest, and fair. Employees feeling supported by leadership may be a determinant of their health and productivity by influencing their reaction to workplace stressors. Schmid et al. (2017) investigated associations between supportive leadership behavior and presenteeism/absenteeism and its estimated related costs. The study's findings suggested that perceived supportive leadership was associated with less self-reported absenteeism and presenteeism as well as lower estimated costs (Ruhle et al., 2020).

Most presenteeism studies based on supervisor support and productivity are found in the medical field, leaving a literature gap concerning knowledge workers. A study of Chinese nurses investigated the mediating effect of presenteeism behavior between nurses' job insecurity and emotional exhaustion and supervisor support's moderating effect (Zhang et al., 2020). Results from the study indicated job insecurity had a significantly predictive impact on nurses' presenteeism behavior, nurses' presenteeism partially mediated the relationship between job insecurity and emotional exhaustion, and supervisor support moderated the relationship between nurses' presenteeism behavior and emotional exhaustion. Through empirical evidence, the results suggested supervisor support mediates nurses' presenteeism through prevention and intervention efforts by organizational resources (Cote et al., 2020).

A study by Brunner et al. (2019) explored the question of who gains the most from improving managerial support. Their study estimated the effects of work stressors and resources on health-related productivity losses causes by absenteeism and presenteeism, as well as the costs associated with work stress. Since stress-related productivity losses represent a substantial economic burden, it is essential to mitigate workplace stressors to lessen productivity losses when there are continuing structural changes in the work environment. The results of their study found that health-related productivity losses increase with an increase in job stressors and decrease with an increase in job resources, with social and task-related stressors and resources being equally essential determinants. Additionally, an increase in job stressors was especially harmful if job resources are low, especially if occupational self-efficacy is also low.

Increases in job resources were found to reduce health-related productivity losses if job stressors are high and occupational self-efficacy is low.

Another study by Yang et al. (2019) incorporated supervisor support and co-worker support among healthcare workers. Yang et al. assessed the mediating effect of distributive justice (fairness of reward allocation in an organization) on associations between supervisor support and coworker and presenteeism. The results identified significant indirect effects between supervisor support and presenteeism and between coworker support and presenteeism, both mediated by distributive justice. This result suggests that better supervisor and co-worker support may improve the fairness of reward allocation among workers, thus increasing their performance in a health care system where they are underpaid and overworked (Deng et al., 2019).

Receiving social support from coworkers was found to reduce employees' presenteeism by providing emotional protection from workplace stressors through interpersonal relationships formed with colleagues and employers. In a study by Baeriswyl et al. (2017), previously mentioned in this literature review, working conditions from coworker support and workload mediated emotional exhaustion by reducing sickness presenteeism levels. Another study by Yang et al. (2016) found that coworker support and supervisor support were strongly correlated, with coworker support having a significant direct negative effect on job stress and presenteeism. Another study by Furuichi et al. (2020) found that coworker support had an indirect impact on presenteeism, where social support from coworkers relieved job stressors through the effects on their psychological and physical responses.

Creating a sustainable workplace environment to combat presenteeism requires providing organizational resources to manage technostressors (Zhao et al., 2020). Effective management of presenteeism reduces employees' adverse health-related outcomes, positively increasing an organization's success. According to recent studies, sustainable workplace environments can be achieved in several ways. One way is through job crafting (making proactive changes in one's work through balancing available job demands and resources), where the individual, job, and organization all positive experience outcomes (Singh & Singh, 2018). Singh & Singh's (2018) study examined how employees proactively craft their jobs to avoid stress and burnout, and as a result, become better performers. Grounded in knowledge workers' occupational health context, the study results found that job crafting decreased role stress and burnout and increased psychological availability while improving job performance (Safari et al., 2020).

Another way to manage presenteeism is to provide ICT-supported occupational stress management interventions (Weerasekara & Smedberg, 2019). As our work continues to expand in the digital age, the design of ICT stress management interventions is considered an effective way to treat stress-related complications. Occupational stress experienced in an age of technostress can be combated by design systems that allow employees access to self-help services and support groups, thus increasing control over their health. Interventions conducted through tools with customized information, online communities, personalized alerts, self-assessment tools, goal setting, tracking tools, and geolocation services allow users to access information quickly and safely.

Instituting workplace health and safety protocols can be challenging but effective in combating presenteeism (Liu & Lu, 2020). Management of human resources can curtail presenteeism by fostering a *workplace safety climate* (WSC) by improving safety motivation, complying with safe working behaviors, reducing injuries and accidents, and promoting safety performance. According to the stimulus-organism-response theory, external environmental factors stimulate an organism's psychological state, affecting individual behavioral responses. Studies such as that by Nyberg (2008) have proven that leadership behavior affects employees' health risk choices. It would seem vital that entire organizations support a WSC to combat presenteeism. Establishing a WSC will allow knowledge workers experiencing workplace stressors to get the support they need to negate adverse health outcomes and thus reduce presenteeism (Liu et al., 2020).

Finally, to establish organizational stability in the rapidly changing world of technology, management needs to implement and support a decentralized and flexible work environment for knowledge workers (Lee et al., 2017). ICT-induced presenteeism results from a lack of organizational procedures to support knowledge workers, preventing them from engaging in presenteeism due to stress experienced by technostressors. Knowledge-intensive work requires workers to decide the scope and method of tasks through their capabilities and surroundings, affecting their work engagement. If management provides appropriate reward systems, clear job definitions, and supports close cooperation of co-workers, knowledge workers may experience less role ambiguity, increased engagement, and reduced ICT-induced stress exhibited by presenteeism (Shin et al., 2020).

Summary and Conclusions

Chapter 2 included a review and critical analysis from multiple research studies surrounding the concept of presenteeism and knowledge workers' ability to cope with technostress (Lohaus & Habermann, 2019). A gap in the literature is most evident in the lack of awareness of how to support knowledge workers who are coping with technostress and that managers are not aware of ICT-induced presenteeism's interface on employee performance (Karanika-Murray & Biron, 2020). Past research on presenteeism focused solely on associations with various medical conditions and productivity loss, overlooking its adaptive potential through balancing health and performance demands (Miraglia & Johns, 2016).

The introduction of ICTs in the workplace enhanced communication and increased production and led to a phenomenon called technostress that affects productivity and adversely affects knowledge workers' general health (Brod, 1984; Variya & Patel, 2020). The impact of technostress on health and productivity requires further understanding of its effect on work/life balance (Kaushal, 2019). How knowledge workers appraise technostressors in their environment determines how they respond and how they choose to cope, determining performance outcomes (Zhao et al. 2020). Extending theoretical literature on presenteeism requires further investigation into the causes and effects of organizational performance and productivity (Lohaus & Habermann, 2019).

In Chapter 3, the methodology for this qualitative study and its purpose will be provided. The central research question on how knowledge workers describe their

perceptions on the interface of technostress and ICT-induced presenteeism on their work productivity will be discussed. The sampling rationale and method followed by the method of data collection is also provided in the chapter. Finally, the study's logic and methodological support for the data collection and analysis are provided along with aspects of data and ethical research procedures' trustworthiness.

Chapter 3: Research Method

The purpose of this qualitative, exploratory, single case study with embedded units was to understand the perceptions of knowledge workers of the interface of technostress and ICT-induced presenteeism on their work productivity. Meeting the purpose of this study addressed the literature gap on how managers may support knowledge workers coping with technostress and the interface of ICT-induced presenteeism on employee performance and productivity (Karanika-Murray & Biron, 2020; Liu & Lu, 2020).

Although current research has advanced the understanding of presenteeism, this study fills a gap where scarce literature existed on supporting knowledge workers coping with technostress and how managers usually know little about the interface of ICT-induced presenteeism on employee's performance (Karanika-Murray & Biron, 2020; Liu & Lu, 2020). This study is significant because it contributes to the management field by providing an understanding of knowledge workers' perceptions of coping with technostress and ICT-induced presenteeism. With this understanding, well-informed managers may drive positive social change in the workplace by creating policies and processes to develop a healthy, safe, and productive technology-infused work environment (Liu & Lu, 2020).

In this chapter, I provide detailed information on the research method and rationale for conducting a qualitative case study. The central research question guiding this empirical investigation is presented along with the participant selection strategy, data

collection and data analysis processes, the researcher's role, ethical considerations, and a summary of the main points of Chapter 3.

Research Design and Rationale

The research question drives the research strategy (Browne & Keeley, 2014; Onwuegbuzie & Leech, 2004) and is crucial to understanding the studied problem (Morgan et al., 2017). A researcher must identify the right question for the study. Consistent with the purpose of this study, the central research question was as follows: How do knowledge workers describe their perceptions of the interface of technostress and ICT-induced presenteeism on their work productivity?

The health and financial consequences of presenteeism can be observed by reducing productivity levels worldwide as knowledge workers experience greater technostress levels in the 21st century (Karanika-Murray & Biron, 2020). The decision of whether to stay home or go to work ill has become a global management concern because it affects workers' productivity. Stress takes a toll on an employee's health and can lead to more significant adverse health outcomes over time. A workforce plagued with stress that causes mental and physical responses requires greater understanding by management to help mitigate these stressors and provide a healthy and productive working environment for knowledge workers.

The increased use of technology in all facets of business has led to technostress, a term based on the overload of workplace stressors affecting knowledge workers (Zhao et al., 2020). ICTs aid productivity by enhancing communication and increasing automation, but at the same time make ICT work stressful. Constant connectivity to

employers and clients through mobile devices blurs work/life boundaries preventing workers from experiencing downtime to recover from technostress. Technostress creators, such as techno-overload, techno-invasion, techno-uncertainty, techno-complexity, and techno-insecurity, affect workers differently and are dependent on the degree to which knowledge workers can cope in their environment (Variya & Patel, 2020). Understanding knowledge workers' perceptions of the interface of technostress and ICT-induced presenteeism can help management provide work design and managerial support to help mitigate the harmful effects of technostressors (Luoma et al., 2020).

The qualitative method was appropriate for this study because it aligned with the study's purpose. The quantitative method was not appropriate for this type of study because it deals mainly with theories and correlation of quantifiable data (Harkiolakis, 2017; Kumar, 2019) and does not allow for an in-depth understanding of the participants' perspective, experience, and knowledge about the research question (Merriam & Tisdell, 2016). The mixed-method approach was not appropriate for this study because it combines quantitative and qualitative data, and in the current study, quantitative data are not relevant (Brannen, 2017; Bryman, 2017). The qualitative method was most suitable because it is descriptive and exploitative, allowing the researcher to see and understand a problem in a real-world setting (Burkholder et al., 2016; Robson & McCartan, 2016). The qualitative method allows the researcher to generate data about a human group in a natural setting, analyze data inductively, extract meaning from participants, and interpret their findings (Stake, 2010).

I employed a single case study with embedded units design in this study. The single case study design was chosen over other qualitative designs, such as ethnography, grounded theory, phenomenology, and narratives, because it allows the researcher to accurately understand the case in a real-world environment (Yin, 2017). The case study design focuses on the "how" and "why" questions of a contemporary set of events in their natural setting where the researcher has limited control (Baran & Jones, 2016; Yin, 2017). Through an exploratory case study design, I explored what factors lead to technostress, what methods are used to cope with technostressors, and the decision-making process behind knowledge workers choosing either presenteeism or absenteeism (Lohaus & Habermann, 2019).

Role of the Researcher

My role in this research was to interview knowledge workers about their perceptions of technostress interface and ICT-induced presenteeism on their work productivity. As a qualitative researcher, my position was not that of a participant but rather that of an observer, recorder, and analyst of the qualitative data obtained in this study (Chesebro & Borisoff, 2007). As such, I had no personal relationship with any of the participants. They each shared their personal and professional experiences to achieve the study's purpose.

As a qualitative researcher, I was the primary instrument through which data were collected and mediated in the research (Denzin & Lincoln, 2003; Sutton & Austin, 2015). I considered myself a vital part of the research process and inquiry in every stage of the study, from planning, collecting data, analyzing data, and reporting findings (Sanjari et

al., 2014). To ensure that the method of data collection was not just reliable but verifiable and the data gathering instruments yielded accurate results, I created field notes and kept a log of data collection activities in the course of the study in order to achieve validity (Kumar, 2019; Ledford & Gast, 2018).

One of my roles as the researcher was to protect all participants in the study from any potential harm incurred from their participation (Sanjari et al., 2014). I communicated the privacy protection procedures to the participants in writing once they showed interest in study participation. I used pseudonyms to reference the participants to help maintain their anonymity and keep their information confidential during and after the study (Orcher, 2016; Petrova et al., 2016).

The researcher's position as the study instrument can lead to research bias (Jafar, 2018). As a qualitative researcher's role is to get engrossed in their study, the "positionality of the researcher is located as always 'inside' the research study" (Cuthill, 2015, p. 63). The researcher must instinctively be aware of their position and select an appropriate method to combat any known bias (Liong, 2015). Potentially known biases were moderated through faithful attention to methodological rigor and participants' validation method (Rubin & Rubin, 2012). Additionally, the potential for sample selection bias was mitigated through faithful attention to implementing the sample selection criteria set up for the study (Certo et al., 2016; Sarstedt et al., 2018). There were no potential conflicts of interest due to insider bias in this study, and I had no affiliation or relationship with the participants that are being interviewed (McCoy & Emanuel, 2017).

Using Berger's (2015) approach, I kept a log of all research activities and conducted reflexivity as well as tracked all research and personal biases to control the accuracy of the research process and findings. Berger's approach to reflexivity involved participants' prolonged engagement and repeated reviews of the participants' responses. Using a semistructured interview approach helped eliminate the personal position, allowing the participants to add insights that may not be previously known to me (Irvine et al., 2013). No incentives were provided to the participants for their involvement in the study, and they could withdraw at any time. However, I did inform the participants that through their participation, they may provide management with a greater level of understanding of the interface of technostress and ICT-induced presenteeism on work productivity, leading to feelings of intrinsic satisfaction and a sense of pride for participating in the study (Stunkel & Grady, 2011).

Methodology

I used an exploratory, qualitative, single case study with embedded units (Yin, 2017) to gain a deeper understanding of knowledge workers' perceptions on the interface of technostress and ICT-induced presenteeism on their work productivity. With this study, I addressed the gap in literature on supporting knowledge workers coping with technostress where managers usually know little about the interface of ICT-induced presenteeism on employee performance (Lohaus & Habermann, 2019; Luoma et al., 2020; Zhao et al., 2020). Exploratory case studies are used to investigate problems that have not been studied more clearly and where a detailed preliminary investigation is lacking (Maslach, 2017). Case study research should have propositions to direct attention

to core items to be examined within the study's scope, but such propositions may not be necessary when dealing with exploratory design as long as the purpose of the study is clearly articulated and stated (Yin, 2017).

The advantage of using the qualitative research method is the researcher's ability to explore in-depth a subject grounded in a conceptual framework (Collins & Cooper, 2014). Single case studies allow for an in-depth exploration of a single case to achieve a holistic, real-world perspective (Yin, 2017). A single case study intensively emphasizes an investigation and analysis of a unit embedded in a case (Hancock & Algozzine, 2016; Yazan, 2015; Yin, 2017), which leads a researcher to provide a significant contribution to knowledge by confirming, challenging, or extending a theory (Yin, 2017).

Researchers have described the case study as both a method and methodology (Mills, 2014). A method is considered a set of procedures and techniques employed in a study, while methodology is the lens through which a researcher views and decides a study (Harrison et al., 2017; Mills, 2014). Harrison et al. (2017) noted that case study researchers emphasize how an overarching methodology will help structure a case study design using multiple data sources and methods (Merriam & Grenier; 2019; Yin, 2017). Researchers can assess a particular case from various perspectives by reviewing additional evidence and outlining the research findings while using a qualitative approach to available data (Stake, 1995). Single case studies investigating social phenomenon can involve individuals living within a specific social context as embedded units of study (Yin, 2017). The unit of analysis, a case study, may be a person, event, entity, or another

unit of analysis (Noor, 2008) In this study, the unit of analysis was knowledge workers in the information and communication technology field.

Qualitative researchers widely use varied purposeful sampling strategies to identify and select information-rich cases related to the phenomenon of interest (Palinkas et al., 2015). I recruited participants for this case study using a purposeful and snowball sampling strategy, with the following inclusion criteria used for screening: (a) were adults over the age of 18, (b) had 3 years minimum of experience as ICT knowledge worker, and (c) possessed knowledge regarding employment conditions in a technology-infused workplace (Robinson, 2014). The exclusion criteria for the sample were participants who did not meet the above inclusion criteria. The most common form of purposeful sampling is snowball sampling, obtained by asking a few key participants who already meet the criteria for the study to refer others who may also meet the criteria but might be hard to find within the sample population (Merriam & Tisdell, 2016). I conducted 17 in-depth, online interviews using the Zoom platform with knowledge workers (Gray et al., 2020). Schram (2006) recommended selecting a range of five to 10 participants for a qualitative study because a larger sample size may weaken an in-depth investigation of the phenomena under study.

The case study design was suitable for this study because this type of research design does not involve experimental controls or manipulation to gain a deeper understanding of knowledge workers' perceptions on the interface of technostress and ICT-induced presenteeism on their work productivity. To address the literature gap and the research problem, I collected qualitative data from multiple sources, including

interviews, reflective journaling notes, and archival data, to support the trustworthiness of findings and make suggestions for further research (Guion et al., 2011). An appropriate participant selection logic was developed so the data collection process would meet the case study criteria (Yin, 2017).

Participant Selection Logic

This case study's target population was knowledge workers in the U.S. ICT sector. IT employment in the United States reached an estimated 12.1 million workers in 2019, capping a decade in which the country's tech-related workforce expanded by 2.3 million jobs, according to *Cyberstates 2020*, the definitive guide to the U.S. tech industry, occupations, and trends published annually by the Computing Technology Industry Association (2020), the leading trade association for the global IT industry. The study participants were drawn from a population of ICT knowledge workers using the study's inclusion criteria through the professional network, LinkedIn. This criterion-based sampling gathered a heterogeneous group of participants to support maximum variation sampling to incorporate as much diversity as possible into the research design (Gentiles et al., 2015). In qualitative case study research, maximum variation sampling relies on the researcher's judgment to select participants with diverse characteristics to maximize variability within the primary data (Poulis et al., 2013).

I utilized LinkedIn and my professional network to solicit potential participants that met the study's inclusion criteria for participation. The strategies of purposeful criterion and snowball sampling were used for this study. The purpose of sampling

strategies allowed the researcher to select participants that will provide rich information relevant to the research questions (Maxwell, 2013; Palinkas et al., 2015).

The most common form of purposeful sampling is snowball sampling, where the researcher asked a few key participants who already meet the criteria for the study to refer others who may also meet the criteria (Merriam & Tisdell, 2016). Snowball sampling creates a succession of participants from the referrer who would be good sources based on the focus of inquiry, enabling the researcher to access quality participants who ordinarily might be challenging to identify using other sampling strategies (Noor, 2008). Although snowball sampling has been questioned on the idea that participants who refer others share similar characteristics or outlooks, the variance of the initial set of participants within the boundary of the inclusion criteria will lead to the generation of a sample that is not excessively skewed in any one direction (Etikan et al., 2016).

The participants for this case study were recruited and screened with the following inclusion criteria: a) adults over the age of 18; b) 3 years minimum experience as an ICT knowledge worker; c) possess knowledge regarding employment conditions in a technology-infused workplace (Robinson, 2014). The exclusion criteria for the sample were participants who did not meet the inclusion criteria listed above. I conducted 17 in-depth individual online interviews with knowledge workers. The participant selection logic followed that of similar studies in the business and management fields, which were grounded in Yin's (2017) interpretation of participant recruitment for case studies, and

that of Brown (2017) for airport managers, Hamlett (2014) for manufacturing managers, and Neubert (2016) for tech firm owners.

Procedures to identify, contact, and recruit participants were achieved through a purposeful selection of knowledge workers' ICT fields. The participants' initial set were pooled from a review of knowledge worker profiles on the LinkedIn website (https://www.linkedin.com/), who were then asked to refer to other participants. An additional recruitment source was achieved through network sampling using direct contact from my professional network. Professional profiles of knowledge workers active on LinkedIn were prescreened using the study's inclusion criteria. Participants were recruited through email, asking if they were interested in participating in the study. I initially spoke with the participants that responded to determine their suitability and experience as a knowledge worker. I then electronically delivered a consent form to the participants who met the inclusion criteria and showed an interest in participating in the study.

The point where additional data from participants in a study no longer yields any new themes is called data saturation (Houghton et al., 2013) and noted as a point of diminishing returns for qualitative samples (Mason, 2010). Determining the sample size in qualitative, interview-based studies relies on a mix of interpretative, situated, and pragmatic judgment (Sandleowski, 1995; Sim et al., 2018). When using thematic analysis as a data analysis technique as in the present study, researchers should reflect beyond an upper or lower numerical limit for sample size and consider the following in determining the final sample size: the breadth and focus of the research question; the methods and

modes of data collection to be used; the use of a maximum variation sampling strategy within the population; experiential diversity in the data; the demands placed on participants; the depth of data likely generated from each participant or data item; the scope and purpose of the study; the pragmatic constraints of the project; and the analytic goals and purpose of reflexive thematic analysis (Braun & Clarke, 2019).

Researchers should make an in-situ decision during data collection about the final sample size, shaped by the adequacy of the data for addressing the research question, reviewing data quality during the process – and recognizing that fixed sample size alone is not the only factor to consider of when to stop interviewing and start data analysis (Braun & Clarke, 2020; Flick, 2018). Although a range in sample size was proposed for this study, the number of actual participants was guided by achieving data saturation. The fieldwork progressed until the full advantage of an in-depth study of the participants was reached (Stake, 2010). A single-point sample size is unnecessary in qualitative research because a single-point sample size may be too small or too large to reach theoretical saturation (O'Reilly & Parker, 2013; Sandelowski, 1995).

The type of data source and integration of the research question determines data saturation (Braun & Clarke, 2020). Sim et al.'s (2018) claim that determining a concrete number for sample size in advance is inherently problematic in more interpretative qualitative research forms. Even though the proposed sample size was 20 participants, data saturation was determined as the point to stop the interview process. Data saturation was necessary because failure to reach saturation would adversely affect the research's validity (Fusch & Ness, 2015). Data saturation in my collected interview result was

reached at 11 interviews. Repetitive information appeared in three interviews in a row at Interviews 9, 10, and 11. I continued to 17 interviews to ensure diversity in rich, in-depth information collected when evaluating the data analysis results' trustworthiness.

Instrumentation

Specific instrumentation in a case study provides the vehicle for collecting data from multiple sources and provides appropriate data collection instruments to answer the research question (Yin, 2017). It is essential to examine all responses from the various forms of questions developed by researchers related to the research topic and the characteristics and selection of participants in the data analysis process. Instrumentation protocols that align with the study's purpose may contribute original data to its conceptual framework by carefully choosing appropriate instrumentation, themes to support insights emerged from studying the perceptions of knowledge workers on the interface of technostress and ICT-induced presenteeism on their work productivity. Three sources of data were utilized throughout this study: (a) a semistructured interview protocol (see Appendix C) whose items have been designed and standardized by previous researchers, (b) archival data in the form of government and popular media reports (Yin, 2017), and (c) reflective field notes (Merriam & Tisdell, 2015), which will be kept by me throughout the entire data collection process.

The Interview Protocol

The interview guide for this study (see Appendix C) consisted of semistructured questions adapted from an interview guide developed by Fiorini (2019) and was used to collect the perceptions of knowledge workers on the interface of technostress and ICT-

induced presenteeism on their work productivity. Fiorini (2019) designed and validated the interview questions in research conducted at the University of Nottingham (United Kingdom) on the predictors and consequences of presenteeism among nurses in Maltese geriatric settings. The interview protocol was an accessible document, and the interview protocol questions had already been piloted (Fiorini, 2019; Fiorini et al., 2018) and required no repetition. Validation was essential but not critical to qualitative research since concepts invariably reflect the realities of the study's context (Merriam & Tisdell, 2015). That, notwithstanding, qualitative researchers employ content validity to ensure the instrumentation captures the concept it was designed to investigate by containing sufficient representation of items that ensure the interview questions are grounded in the sturdy's conceptual framework and theoretical foundation (Castillo-Montoya, 2016).

This present study on perceptions of knowledge workers on the interface of technostress and ICT-induced presenteeism on their work productivity utilized the same conceptual lens used by Fiorini (2019) in the study. It thus supported using Fiorini's interview items as part of replicating that instrumentation portion of the study. The interview questions used in this study were grounded in the theoretical literature, the author's knowledge and insights into the workplace's presenteeism phenomena. This study's interview protocol was consistent with the two key concepts framing this study: the concept of presenteeism developed by Lohaus and Habermann (2019) within their comprehensive presenteeism model, grounded in Johns's (2010) framework model of presenteeism.

In the study, Fiorini (2019) conducted 18 semistructured interviews involving a predetermined interview guide (see Appendix C) by audio recording and interview sessions from 40 to 70 minutes. No individuals withdrew from the study, and interviews were concluded when thematic saturation was deemed to have been reached in the research settings. I followed recommendations (Fiorini, 2019; Fiorini et al., 2018) to further extend the original study for generalizability and transferability by adding maximum variance to the sample's recruitment strategy in terms of location, industry, and demographic groups. By opening the participant pool to knowledge workers across the United States through recruitment on the LinkedIn professional platform, more detail could be discovered on the interface of technostress and ICT-induced presenteeism on this sample group's work productivity. Permission to use and adapt Fiorini's (2019) interview questions for this study can be found in Appendix D.

The semistructured interview strategy was designed to facilitate a researcher's subjective understanding of a phenomenon or phenomena (Kvale, 1995; Tracy, 2019). Hence, using piloted, semistructured interview questions in a case study of this kind was valuable in gaining a detailed understanding of the phenomenon being explored and gaining insight into each participant's experiences with the goal of transferability of study results to other contexts. Transferability presents a challenge for qualitative researchers in that it limits findings to given sample groups and their contexts (Klenke, 2016). Establishing a rigorous case study design can strengthen the transferability and trustworthiness of study results to extend theory using said data's transferability (Stake, 2010). Finally, the interview protocol uses prompts to facilitate conversations regarding

the facts, such as “Can you give me an example of that?” and “Please tell me more about that.” While asking generic questions, probing questions can encourage in-depth examples and details of actions from participants. When asking about specific details, probing questions were customized to the participants’ specific dialogue (Merriam & Tisdell, 2015).

Archival data

Archival data can be any information previously collected by others and is available for systematic study and a source of data collected within the case study design (Jones, 2010; Yin, 2017). During this process, I reviewed and annotated peer-reviewed scholarly papers from at least 300 scientific journals. I gathered this archival data and created a database containing information from the popular press, professional IT reports such as the Association of Computing Machinery Digital Library, and social media sites. Archival data evidence from government labor and health statistics focused on issues of technostress and productivity of ICT workers and presenteeism related to work overload, role ambiguity, invasion of privacy, work-home conflict, and job insecurity. These reports were not substantive for the literature review but served as a data triangulation source to complement the semistructured interviews and reflective field notes.

Reflective field notes

The third instrument used to gather data from the research participants was through the assembly of netnographic field notes derived from semistructured interviews conducted via the Zoom platform (Kozinets, 2017). Zoom allowed the researcher to employ participants in distant or remote locations, aiding in replication and eliminating

contextual information from the interview engagement, which may have helped the researcher avoid personal reflexivity and maintain a significantly unbiased atmosphere (Gray et al., 2020).

The collection of online data resulted from interviews, introspections, and interactions (Merriam & Tisdell, 2015). Reflective field notes revealed more than observational field notes because some online data interactions were not recorded and kept while occurring. Field notes attained from online data provided the researcher's observations concerning subtexts, pretexts, contingencies, conditions, and personal emotions occurring throughout their duration online and associated with their online engagements and experiences (Morgan et al., 2017). This process revealed critical details concerning online social interactions' functioning while making apparent and helping to decode the explanations underlying cultural actions, relative to providing a more characteristic recording or description (Kozinets, 2017).

The emergent and inductive nature of qualitative data collection make it relevant for researchers to take notes on multiple online social experiences, including engaging information or sites, social groups, events, and resources that arise during the process. The observational data analyzed later informed the gathering of additional self-report data as experienced in semistructured interviews (Yin, 2017). Using both field notes and online data together was advantageous due to the subtle behavioral nature of knowledge transfer and the frail nature of recollection, which often quickly erodes. To capture a participant's unadulterated response during data collection required unfiltered online

events, interactions, and responses, allowing for the transference of raw emotions, deep-seated feelings, and sensitivity in the data.

It was also critical that the respondents' perceptions, positions, and responses be as unobstructed as possible. The critical component of netnography required more in-depth details of the human experience and was achieved through field note inscription, where these key aspects emerge as a part of the record. It may be hard to ascertain the minor refinements that hint at or be intangible, unpredictable, or unforeseen, but that may yield to complexities that in-depth insights into the interpretation and address of diverse stimuli (Kozinets, 2015, 2017).

Developing netnographic field notes prompted the beginning of the data analysis process in a study driven by a qualitative study purpose and research methods (Kozinets, 2017). This method has been used in similar studies such as that of McKinlay et al. (2017), where a multiple case study design using case study observational research methods to explore the research questions within real-world settings where the observational field notes launch a sequential order of data collection, data analysis, and synthesis (Yin, 2017).

Procedures for Recruitment, Participation, and Data Collection

The recruitment process was initiated using email to solicit potential participants through my social network on LinkedIn. It is no longer considered a novel practice to use social media sites such as Facebook, LinkedIn, Instagram, or Twitter as a recruitment tool for human research (Gelinas et al., 2017). Social media is defined as internet-based applications where users can construct a public or semi-public profile and create and

maintain a list of other users (‘friends’) with whom they may share content and participate in social interactions and networking (Boyd & Ellison, 2007; Kaplan & Haenlein, 2010). Compared to traditional recruitment methods such as flyers, newspaper adverts, letters, emails, and word-of-mouth, social media provides greater visibility and is a cheaper and faster recruitment method (Whitaker et al., 2017).

Once prospective participants began to show interest in the study, I expected to receive email requests for additional information leading to their participation. Participants to be recruited would meet the criteria set out in the Participant Selection Logic for knowledge workers, possessing a minimum of 3 years’ experience as an ICT knowledge worker. The first set of potential participants were screened using the set criteria, and those meeting the criteria were considered core participants used to initiate the snowball selection process to refer to other potential participants. I informed the participants that the LinkedIn platform would be used for recruitment purposes only, and after the recruitment process was complete, all data and information would no longer be shared on the platform so as not to jeopardize their privacy.

Once the Institutional Review Board approved the interview application, I requested the participants’ contact information such as phone number, email address, and Zoom address, including the best time to contact the participants by phone. I then sent a recruitment letter to each of the participants through email, attaching the informed consent form. The informed consent form explained in sufficient detail the nature and purpose of the study, the risks, and benefits of being a participant in the study, and the potential positive social change the study would bring to society. I used the Informed

Consent form to explain that participation was voluntary, and participants could withdraw from participation in the study at any time. The consent form also informed participants that their privacy would be guaranteed and secured through the confidentiality and anonymity process integrated into the research process. Once debriefed by the consent form, I requested the participants express their consent to participate in the study by replying "I Consent" to the email designated for the study. Replying to the email marked the beginning of the participant's interview process; I then prepared an interview timeline that highlighted each participant's day and time agreed to be conveniently available for the interview.

I utilized a set of semistructured interview questions (Appendix C), grounded in the literature review's conceptual framework, to understand how knowledge workers perceive the interface of technostress and ICT-induced presenteeism on their work productivity. The Zoom interview took place in a safe, quiet, and relaxed setting, free from distraction, as the interview was being recorded to enhance the generation of excellently audible and clear data during the interview (Gray et al., 2020).

For a qualitative study, a large sample size of over ten participants may weaken an in-depth investigation of the phenomenon being studied (Schram, 2006). While the participants were being interviewed, the data organization and analysis process commenced, and the process continued until data saturation was reached. Data saturation occurred *when gathering fresh data no longer sparks new theoretical insights, nor reveals new properties of the researcher's core theoretical categories* (Charmaz, 2006, p. 113). Saturation levels were reached when every interview question had been exhausted

to the point where the participants began to give the same answers, and further interviews resulted in the emergence of the same themes (Tracy, 2019). At this point, the exploration of new data was no longer necessary (Yin, 2017).

The time established for the interviews was between 20 and 40 minutes. The interviews were audio-recorded on the Zoom platform based on the agreed timeline, with interview data being recorded through digital devices, complemented to include participants' responses and observational notes taken. I actively listened to the participant's responses to the prepared semistructured questions while simultaneously recognizing when to throw in probing questions as necessary. Probing questions helped to *dig through the mud to discover the gold* (Rubin & Rubin, 2011; Wheeler & Massey, 2018). If I had not achieved the required number of participants before data collection began, participants' solicitation through the snowball technique would have continued until enough participants are recruited to achieve data saturation.

Once the first interview was completed, there would not be any follow-up interview. However, a transcribed copy of the participant's responses was emailed to each participant, requesting each participant to review, scrutinize, and authenticate their responses through the transcript review process as the participant's original contribution to the research the interview. The transcribed data were kept confidential and destroyed after five years, keeping in line with the best practices for qualitative research (Merriam & Tisdell, 2015).

To strengthen the data results' trustworthiness, I compared multiple sources of evidence (Merriam & Tisdell, 2016; Yin, 2017). The results of the qualitative interviews

with reflective field notes and archival documents were used for data triangulation (Guion et al., 2011). Archival documents included articles from the popular press, professional IT reports such from the Association of Computing Machinery Digital Library, social media sites, and evidence from government labor and health statistics on the influence of technostress on health costs and productivity of ICT workers, and how intrusiveness of technostress (presenteeism) is related to work overload, role ambiguity, invasion of privacy, work-home conflict, and job insecurity. During the Zoom interview, the observational notes focused on the participants' pretexts, subtexts, personal emotions, and contingencies throughout the online interview (Yin, 2017). Reflectivity was applied to the observational notes taken during the Zoom interview to arrive at reflective field notes to discover valuable insights about the participants' nonverbal responses (Kozinets, 2017).

Data Analysis Plan

Qualitative data analysis deals with turning written data such as interviews, field notes, and archival documents into findings and conclusions. Case study data analysis is the process of examining, categorizing, tabulating, testing, and converging case study evidence to produce empirically based findings (Yin, 2017). The most common problem researchers encounter in qualitative studies is being confronted with a considerable amount of data piled up unanalyzed during the data collection period (Maxwell, 2013). The interweaving of data collection and data analysis increases research rigor (Miles et al., 2014). Hence, in this study, and as the research proceeded, I conducted both data collection and data analysis concurrently. The final essential task to be performed before

data analysis began was to prepare a detailed description of the research setting (Yin, 2017).

I began the process of data analysis by reviewing and examining the data to determine what was worth investigating by reading through the interview transcribed data and other documents that were to be analyzed (Maxwell, 2013), determining and following a specific analytical technique appropriate for the data, coding the interview data and interpreting the findings (Miles et al., 2014). The data analysis allowed me to identify emerging themes and patterns that help explain the central research question of how do knowledge workers describe their perceptions on the interface of technostress and ICT-induced presenteeism on their work productivity. When the emerging themes were categorized, findings emerged that helped me achieve a deeper understanding of knowledge workers' perceptions of the interface of technostress and ICT-induced presenteeism on their work productivity. The research setting is a physical, social, and cultural site where a researcher conducts a study and studies the participants' natural settings (Halkias & Neubert, 2020). I prepared a detailed description of the research setting before data analysis began, which helped me make sense or meaning during the interpretation of the findings (Merriam & Tisdell, 2016). Documentation and understanding of the conditions under which a study occurred would boost the study's repeatability or reproducibility if the study were to be conducted by another researcher under a similar setting (Goodman et al., 2016). I developed the codes that were grounded in the conceptual framework. I connected the result of the data analysis with the central

research question and concluded in such a way that anyone could check with clarity the entire research process that will lead to the conclusion.

Data analysis needs to be approached with rigor when applying any of the five analytical techniques—pattern matching, explanation building, time-series analysis, logic models, and cross-case synthesis for case study research (Yin, 2017). This study applied rigor and adopted patterns matching logic that addressed my case study's "how." Pattern matching occurred when the predicted pattern was compared with the empirical pattern. I predicted the study's findings by key propositions that emerged from the literature review and my knowledge of technology adopted through my professional training. The empirically based pattern was the pattern of the findings revealed from the result of data analysis. The goal of pattern matching in my study was to examine whether the empirically based pattern matches or deviates from the predicted pattern. Yin (2017) mentioned that if the empirical and the predicted pattern appear similar, it indicated the original explanation's acceptability, strengthening the case study's internal validity. If the empirically based pattern and the predicted pattern do not match, then there are rivals, and the researcher must offer an explanation to address the rival. (Tracy, 2019).

In qualitative inquiry, a code is a researcher's generated construct symbolically assigned to capture every statement's summative or essence in the transcript of data (Saldaña, 2015). Code could be a word or summative short phrase assigned to individual data in data to initiate qualitative research analytic (Miles et al., 2014; Saldaña, 2015). Participants were served with a copy of their transcript for validation, and I started with the initial review of the data and began the coding. I carried out two cycles of coding, the

precodes and the actual code. The precoding provided the basis for coding and allowed for comparison of the precode with the code. Once the codes had been determined, I rolled over the codes into categories for thematic analysis. Saldaña (2015) mentioned that coding is a cyclical act, and it is rarely possible to arrive at perfect codes during the first cycle. I carried out the coding activities using a Microsoft Excel template. Basit (2003) noted "coding and analysis are not synonymous, though coding is a crucial aspect of analysis" (p. 145).

In this study, I utilized Yin's procedure for pattern matching. I compared the empirically based pattern with the predicted pattern, examined the matching range, offered rival explanations where necessary, interpreted the result, and concluded. Thematic analysis was the core process of pattern matching and offered an effective and reliable data approach in a qualitative study. I developed the splitting up or categorizing common codes, phrases, and words within the participants' responses using manual coding. I applied content analysis techniques for primary data. I first identified codes in the main content through in-depth interviews and then created categories from the identified codes. I continued with the content analysis from primary and secondary data using a pattern-matching technique followed with triangulation by exploring patterns of similarity or difference among themes generated by the analysis (Yin, 2017).

The identified themes represented recognized patterns, reasonable and practicable agendas of the researcher, commonalities, and the research question (Yin, 2017). I classified several themes using coding analysis that recognized similar relationships within several cases with codes connecting data collections and combining themes across

a few methodologies such as journals, interviews, and discussions (Saldana, 2016). The triangulation of data collection sources ensured rigor in evaluating data collected and improves the study's overall quality (Yin, 2017).

Yin (2017) noted that the strength of case study findings rests in their ability to be generalized to the theoretical propositions established from the literature. To this end, this study was framed by the concept of presenteeism developed by Lohaus and Habermann (2019) within their comprehensive presenteeism model and grounded in Johns' (2010) framework model of presenteeism. The alignment of this conceptual framework to the overall findings from the case study research was essential in interpreting the result to arrive at a deeper understating of how knowledge workers perceive the interface of technostress and ICT-induced presenteeism on their work productivity.

Comparing the findings with the findings from similar studies helped me validate the study's findings (Stake, 2008). Discrepant cases are data that are out of congruence with the pattern or explanation emerging from the data analysis (Stake, 2010). Analyzing, interpreting, and reporting discrepant cases was necessary as it may have helped the researcher broaden, revise, or confirm the patterns emerging from the data analysis and further enhance the study's credibility (Maxwell, 2004). Reporting the case study was the final step of a case study research (Yin, 2017). I reported the outcome of the case study by using thick descriptive narratives and presented to my research audience a holistic picture of the perceptions of knowledge workers on the interface of technostress and ICT-induced presenteeism on their work productivity.

Issues of Trustworthiness

In qualitative research, trustworthiness is the extent to which a researcher demonstrates confidence in their findings. The researcher's sources and methods to produce the findings must be trustworthy using four criteria: credibility, transferability, dependability, and confirmability (Guba, 1981; Lincoln & Guba, 1985). Even though Guba and Lincoln (1994) later added authenticity, this criterion has yet to yield wider acceptability among qualitative researchers.

Credibility

Credibility in a study can be found in confidence in the study's truth and the findings (Lincoln & Guba, 1985) and is considered the most crucial criterion (Polit & Beck, 2014). The researcher needed to demonstrate that the presented findings represent the phenomenon's accurate picture (Shenton, 2004). The concept of credibility is analogous to internal validity in quantitative research (Connelly, 2016). Triangulation, prolonged engagement, peer debriefing, and member checking are techniques for establishing a study's credibility (Lincoln & Guba, 1985). However, I used only triangulation, prolonged engagement, and member checking to achieve a credible study.

Triangulation of data

Data triangulation is achieved through consistent findings by converging data from multiple sources (Yin, 2017). Using multiple sources of evidence strengthens the quality of case study results. Converging data from multiple sources prevents any weakness inherent in a single source. Researchers can attain a case study report that is well developed, rich, and comprehensive (Lincoln & Guba, 1985).

Four common triangulation forms are methodical triangulation, data triangulation, investigator triangulation, and theoretical triangulation (Denzin, 1970, 2009). The use of methodical triangulation ensures consistency of findings by using different data collection methods, and the use of data triangulation ensures consistency in findings using different data sources within the same method (Denzin, 1970, 2009; Lincoln & Guba, 1985). Investigator triangulation involves multiple researchers or analysts in a single study, and theoretical triangulation involves the inclusion of a range of different theories to frame a study (Denzin, 1970, 2009; Lincoln & Guba, 1985).

The conceptual model I used for this study was the concept of presenteeism developed by Lohaus and Habermann (2019) within their comprehensive presenteeism model, grounded in Johns's (2010) framework model of presenteeism. In this study, I used methodological triangulation to triangulate data obtained through the Zoom interview method with reflective data obtained from the field observation method and data obtained from the archives to support the trustworthiness of findings and made suggestions for further research (Guion et al., 2011; Houghton et al., 2013).

Prolonged Engagement

Prolonged engagement involves spending enough time in the field to arrive at a comprehensive understanding of the social and cultural setting in which a phenomenon is being studied, including the participants involved in the study (Lincoln & Guba, 1985). Through prolonged engagement, I developed an in-depth understanding of the perceptions of knowledge workers on the interface of technostress and ICT-induced presenteeism on their work productivity. Prolonged contact enhanced creditability and

trust in this study, as the researcher became so immersed in the study so that the context and settings generate findings that became clearer and more appreciated (Lincoln & Guba, 1985).

Member Checking

Also known as participant validation, *member checking* can be technical by asking the participants to check, review, verify, and confirm the accuracy of their statements as shown in the interview transcript, thereby helping the researcher to establish validity (Lincoln & Guba, 1985; Tong et al., 2013). Through member checking, I truly understood the participant's actual perception and truth during the interview. The only drawback with member checking is that some participants may not recapture what they said and respond during the interview.

Transferability

Transferability occurs when the extent of a study's findings is transferable to other contexts, settings, and participants (Burkholder et al., 2016; Korstjens & Moser, 2018). The researcher needed to provide enough details of the context and to set encountered during the fieldwork so that another researcher can assess whether the current environment is similar to other settings. This concept is equivalent to *the* quantitative researcher (Connelly, 2016; Yin, 2017). The assurance of transferability is critical to my study so that the findings from my study on the perceptions of knowledge workers on the interface of technostress and ICT-induced presenteeism on their work productivity may allow management to discuss how technostress and ICT-induced presenteeism affects the work productivity of knowledge workers in any position in the

information and communication technology field. The strategy to establish transferability used in this study is called a *thick description.*

Thick Description

The idea of thick description was first introduced by philosopher Ryle (1949). It was not until the 1970s it was established as a qualitative method for investigating implicit social practices in their specific contexts by anthropologist Geertz (1973). Thick, detailed descriptions have since become a well-established concept and practice as a qualitative empirical approach (Stokes et al., 2016). Thick description allowed the researcher to give a detailed account of fieldwork and constructs patterns of social and cultural experience (Holloway, 1997), providing a reference point for users of the transferable report to other times, settings, and people (Sergi & Hallin, 2011). I achieved transferability in this study through a thick description of the entire research process, method, participants and their contexts, settings, data samples, and the sampling method (Houghton et al., 2013; Korstjens & Moser, 2018).

Dependability

Dependability in the research process occurs when there is the consistency of the findings over time that can be replicated by other researchers (Billups, 2014; Korstjens & Moser, 2018). The importance of dependability is essential to the study's trustworthiness, as the research audience must be ensured that if other researchers review the data, they will arrive at the same conclusion. In qualitative studies, the data collection procedures, analysis, and interpretation leading to the findings are reliable and dependable. In this study, I used the audit inquiry technique to establish dependability.

Audit Inquiry

The audit inquiry technique involved the researcher process's detailed account, from data collection to the research findings. To do this, I first ensured that the interview transcript produced from the digital recorder represents the participants' responses during the interview before I began coding. I achieved this by listening to the participants' interview responses several times, comparing them with the transcript, and sending a copy of the participant's transcript for validation. I provided a detailed account of how the data are collected, categorized, themed, and interpreted, including the decisions that I make to arrive at the findings, and reviewed the report several times to ensure I have not missed anything from the study. Dependability was also achieved by obtaining a researcher who was not involved in the study to examine the data process and the findings independently to evaluate accuracy. The audit inquiry could gather additional data that might provide more robust findings (Lincoln & Guba, 1985).

Confirmability

The last criterion to establish the trustworthiness of a research study is confirmability. The confirmability criterion verified that the research findings were derived from the participants' narratives and other data sources for the study, rather than the researcher's biases, motivation, or interest (Lincoln & Guba, 1985). The confirmability criterion precipitates neutrality, impartiality, and the precision of the data, interconnecting dependability because both confirmability and dependability can be established at the same time (Gibson et al., 2013; Houghton et al., 2013; Walker, 2012).

This study used an audit trail and reflexivity to achieve confirmability (Lincoln & Guba, 1985).

Reflexivity

Reflexivity involves self-awareness and analytic attention to the researcher's role while conducting a qualitative research study (Lambert et al., 2010; Palaganas et al., 2017). Throughout this study, I practiced reflexivity by being aware of my contribution to constructing meanings from the participants' experiences through the research process (Ackerly & True, 2019; Denzin & Lincoln, 2011). In this study, I maintained a reflexive journal notebook on my preconception and values and how they may affect my research decisions in all the study phases (Korstjens & Moser, 2018).

Ethical Procedures

As part of the requirement to achieve and maintain ethical practices in research works, Walden University requires all doctoral students to obtain approval from Walden University's IRB before data collection can commence. I complied with every IRB requirement necessary to access the participants and the data for this study. The IRB ensured that participants involved in the study of human subjects are protected from being harmed or injured in any way during a study (Jacob & Ferguson, 2012). I applied to IRB and kept a record of my application approval number issued by the IRB. With IRB approval, I accessed the research site, reached out to participants, and collected data.

Participation in any research involving human subjects is voluntary, and as a researcher, I was under the obligation to achieve this through *informed consent*. Informed consent is a procedure where the participant in a study, having understood the research

information, process, and risk, can voluntarily indicate a willingness to participate in the study. I developed an Informed Consent Form and forwarded it to each participant to sign and return the form to me electronically via an email address designated for the study. The consent form served as an opportunity for the participants to ask me questions and clarify any study issues and their process.

A study's conduct must follow the highest ethical standard, and the researcher must take full responsibility for the scholarship, professionalism, and appropriateness of the methodology adopted for the research (Yin, 2017). The study's research ethics involved all aspects of research design, ranging from research goals, research questions, validity, and methods (Maxwell, 2013). Additionally, originality and referencing others' scholarly works appropriately to avoid plagiarism as part of the ethical obligation that a researcher must observe and comply with. I developed a trust relationship with the participants and addressed the participants' privacy and confidentiality of the views and perceptions that they expressed in the study (Palys & Lowman, 2012).

The following is a list of the highlighted ethical actions taken to comply with the ethics of conducting human subject research:

1. I did not engage in pressure or undue influence, or undue motivation, such as offering value to get the research participants' involvement.
2. Participation was voluntary, and the participants were informed of their rights to withdraw unconditionally and at any time from the study.
3. I addressed anonymity by randomly allocating pseudo names in place of participants' actual names during data collection and analysis.

4. In case of an audit inquiry, I provided a pseudonymous copy of the report to the external researcher to secure the participants' identity.
5. I addressed confidentiality by signing off on consent letters with a promissory guarantee to individual participants that their personal information and identities would be protected from the public.
6. I addressed the ethics of respect to participants by involving the participants while scheduling the interview. The participants had the right to dictate the interview date and times most convenient for them.
7. I addressed the ethics of psychological harm to the participants by being psychologically meticulous while asking probing questions. I did not probe participants' personal life experiences but probed participants' professional life experiences to bring depth to the study.
8. I informed the interview protocol participants of the data collection devices such as Zoom and voice recorders and asked them to express their concerns.
9. I obtained approval from the IRB before data collection began.
10. I asked the participants to validate their responses as recorded in the transcript before data processing.
11. I let the participants access a copy of the research paper before publication to confirm that their privacy was genuinely covered in the report.
12. I dealt less with hard files of data and more with electronic files. Where hard files are involved, such as interview notes, print photographs, audio, or video

files, I securely locked them away in a cabinet that I can only access. All electronic files are password protected and encrypted.

13. I will erase, incinerate, and destroy all data, both hard and soft, collected after 5 years and inform the participants accordingly.

Summary

In Chapter 3 of this study, I elected to use a qualitative single case design over other qualitative designs such as ethnography, grounded theory, phenomenology, and narratives and substantiated the rationale for adopting the research design. As a qualitative researcher, I discussed my function as a research instrument, an observer, a recorder, and an analyst of qualitative data rather than as a participant in the study. I identified the potential for research biases that may arise from the study and discussed how such biases would be moderated through reflexivity.

The single-case design was grounded into an appropriate methodology for selecting and recruiting the participants using the criterion-based snowball strategy and collecting research data from multiple sources (interview, archival data, and reflective field notes). The interview protocol was grounded in the conceptual model framing the study by the concept of presenteeism developed by Lohaus and Habermann (2019) within their comprehensive presenteeism model, and grounded in Johns's (2010) framework model of presenteeism, adequately aligned with the purpose of the study.

The thematic analysis of the field data to produce empirically based findings and how they will be interpreted using pattern matching is presented. The credibility, transferability, dependability, and confirmability of data results were addressed to support

the study's overall trustworthiness. I also highlighted the ethical actions necessary to achieve the ethics of conducting research that involves human subjects, mandated by the IRB. I will provide in Chapter 4 a detailed description of the research setting, demographics, data collection, data analysis, evidence of trustworthiness, and the study results.

Chapter 4: Results

The purpose of this qualitative single case study with embedded units was to understand the perceptions of knowledge workers of the interface of technostress and ICT-induced presenteeism on their work productivity. This topic remains poorly understood (Lohaus & Habermann, 2019; Luoma et al., 2020; Zhao et al., 2020); therefore, meeting the purpose of this exploratory study addressed the gap in the literature on supporting knowledge workers coping with technostress and managers who usually know little about the interface of ICT-induced presenteeism on employee productivity (Karanika-Murray & Biron, 2020; Liu & Lu, 2020). I used nine semistructured interview questions adapted from an interview guide developed by Fiorini (2019) to collect data from the participants.

When triangulated with archival data and reflective field notes, the findings from the semistructured interview data provided in-depth insight on knowledge workers' experiences with technostress, ICT-induced presenteeism, and their work productivity. By providing sustainable support to aid employees with technostress, management has the potential to improve employees' health and work productivity, strengthen the quality of their working relationships, and allow employees working with health impairments to meet performance demands resulting in increased organizational performance (Karanika-Murray & Biron, 2020; Ruhle et al., 2020).

In this chapter, I describe the research setting, participant demographics, data collection procedures, data analysis procedures, and evidence of trustworthiness as well

as present the study results. The chapter concludes with a summary and transition to Chapter 5.

Research Setting

To recruit potential participants for the study, I browsed through the LinkedIn professional networking platform search results and reviewed potential participants' profiles to assess whether they met the following inclusion criteria: (a) were adults over the age of 18, b) had 3 years minimum of experience as ICT knowledge worker, and (c) possessed knowledge regarding employment conditions in a technology-infused workplace. After participants were prequalified as meeting the inclusion criteria, I contacted them via email to solicit their voluntary interest in participating in the study. I explained the procedure for the interview, the interview method, and the interview duration. Once a participant showed interest, they were sent the Recruitment Letter (see Appendix A) and the Informed Consent Form (see Appendix B). The recruitment letter contained a section to validate the potential participant's eligibility to participate based on the inclusion criteria set up for the study. After receiving the completed consent form, I set up the interview date and time that best worked with the participant's schedule.

I began with four potential participants initially sourced from the LinkedIn platform. Two of them agreed to participate, while two initially declined to respond to the recruitment letter, later citing scheduling issues due to work overload. The two participants who agreed to take part in the study were expected to be primary sources for further recruiting through the snowballing technique, but after interviewing them, I found they had no further suggestions for participants. I began a second round of searching for

LinkedIn participants through my connection list and contacted more potential participants through social media sources other than LinkedIn.

I began the interview process and collected audio-recorded interview data using the Zoom audio-only platform with the participants' consent. Each of the interviews was planned to take between 20 and 40 minutes, in which I sought to gather information-rich conversational evidence on the nine semistructured interview questions used for the study. The shortest duration for an interview was 20 minutes, and the longest was 67 minutes. There was no evidence of fatigue from any of the participants over the course of the interviews.

There were situations for some participants that made it difficult for them to respond to the study questions, and they needed clarification, such as some participants felt the need to differentiate between pre-COVID-19 and present COVID-19 behaviors due to the nature of ICT knowledge workers working from home during the pandemic as opposed to how they would respond before COVID-19 restrictions. Additionally, two participants were formerly in the military and felt the need to specify between their military and their civilian ICT experiences because the military has a different set of expectations and restrictions for work. These situations required longer response time to questions to clarify which experiences were attributed to different situations over their ICT careers. I let the participants know that they could respond to the questions in any way they felt would allow them to express their lived experiences.

All the interviews were conducted in privately chosen settings of the participants, and there was no evidence of prolonged interruptions or disruptions from their family

members. Most interviews were conducted during the workday during work time, but some participants were only available in the evenings or weekends. Out of the 17 interviews conducted, one interview was not recorded halfway through the interview questioning. This action was later corrected by the participant, who then agreed to reanswer the questions that were not recorded and include the recorded responses. I took reflective field notes during the interviews, but these were not prolific because the interviews were audio only, and the participants' responses were most representative of my observations.

Demographics

The demographic composition of the 17 participants is presented in Table 1. I assigned the participants unique pseudonyms from P1 to P17 to conceal their identities and maintain confidentiality in line with the human subject researcher's ethics. Of the participants who were interviewed, 82% were males and 18% were females. Their ages ranged from 18% in their 20s, 12% in their 30s, 29% in their 40s, 29% in their 50s, and 12% in their 60s. In terms of educational achievement, 11% had a high school diploma, 24% had a bachelor's degree, 24% had a master's degree, and 41% had a doctorate. Those with high school diplomas were former military members who were working on their bachelor's degree. Participants had a range of ICT experience, with 29% having 0–10 years of experience, 18% having from 10–20 years of experience, and 53% having 20–37 years of experience. In terms of work locations, 12% had worked remotely, 18% had worked on-ground, and the remaining 70% had worked a hybrid of both remote and

on-ground ICT work. None of the participants were within the infant or older population age categories. There were no vulnerable participants, as required by Walden's IRB.

Table 1

Participants' Demographics and Characteristics

Participant	Gender	Age in Years	Highest Academic Degree	Years ICT Experience	Remote, On-ground, or Hybrid
P1	Female	24	Bachelors	6	Hybrid
P2	Male	50	Masters	25	Hybrid
P3	Male	29	High school	10	Hybrid
P4	Male	42	Bachelors	7	On-ground
P5	Male	58	Masters	37	On-ground
P6	Male	51	Masters	26	Hybrid
P7	Male	60	Doctorate	25	Hybrid
P8	Male	34	High school	10	On-ground
P9	Male	51	Doctorate	20	Hybrid
P10	Male	45	Masters	21	Hybrid
P11	Male	40	Doctorate	10	Hybrid
P12	Male	29	Bachelors	8	Hybrid
P13	Male	53	Doctorate	7	Remote
P14	Male	37	Bachelors	7	Hybrid
P15	Female	60	Doctorate	25	Remote
P16	Female	49	Doctorate	23	Hybrid
P17	Male	48	Doctorate	25	Hybrid

Data Collection

I received approval to begin collecting data from the Walden University IRB (IRB Approval No. 01-20-22-0756655 issued on January 20, 2021, and expires on January 19, 2022). Data collection began with the first interview on January 25, 2021, and continued until February 12, 2021 when the 17th participant was interviewed. The data collection techniques for the study involved semistructured interviews, reflective field notes, and archival data.

Initial Contact

I began the process by searching for participants for the study using LinkedIn's professional networking platform query search and reviewing the profiles to see if they met the inclusion criteria for potential participants: (a) were adults over the age of 18, (b) had 3 years minimum of experience as an ICT knowledge worker, and (c) possessed knowledge regarding employment conditions in a technology-infused workplace. I began with four potential participants initially sourced from the LinkedIn platform. Out of the four, two respondents agreed to participate, while two initially declined to respond to the recruitment letter, only later responding and citing scheduling conflicts due to work overload. The two participants who agreed to take part were expected to be primary sources for the recruitment of additional participants through the snowballing technique, but after interviewing, I found they had no further suggestions for participants. I began a second round of searching for LinkedIn participants through my network list and contacted potential participants through social media sources other than LinkedIn.

After the initial two participants were prequalified, I contacted them via email to solicit their voluntary interest to participate in the study, explaining the procedure for the interview method and duration. Once they conveyed interest in participating, I sent them the recruitment letter (see Appendix A) and the informed consent form (see Appendix B). The recruitment letter contained a section for validating the potential participant's eligibility based on the inclusion criteria for the study. After receiving their completed informed consent by email response, I scheduled an interview date and time convenient for the participants. I continued the recruitment process seeking a total of 20 participants as required by IRB, having had only two participants who were able to refer another possible participant. After acquiring 17 participants, I stopped seeking further participants upon reaching data saturation after my 11th interview.

Interviews

I arranged for interviews to be conducted via Zoom videoconferencing software using the audio-only feature to record each interview. Zoom allows a researcher to employ participants in distant or remote locations, aiding in replication and eliminating contextual information from the interview engagement, which may have helped me avoid personal reflexivity and maintain a significantly unbiased atmosphere (Gray et al., 2020). I began each interview with an expression of appreciation to the participant, followed by a brief overview of the study, which included a review of definitions of terms used in the questioning process.

All the interviews were conducted in privately chosen settings of the participants where there was no evidence of prolonged interruptions or disruptions from their family

members. All interviews were conducted from the participants' homes because of the COVID-19 pandemic and the restrictions in place had employees working from home instead of their usual offices. The majority of the interviews were conducted during the workday, but a few interviews could only be conducted during evenings or weekends. I used the Interview Protocol (see Appendix C) to guide the interview, ensuring consistency in the interview process for the 17 participants. In some cases and when prompted, I used probes and follow-up questions to elicit at an information-rich explanation.

A semistructured interview with focused open-ended questions was the primary data collection tool used in the study (Yin, 2017). The interview questions explicitly addressed the dissertation topic to evoke answers based on the participants' experiences. The interviews were centered on nine well-chosen questions grounded in the conceptual framework and the literature presented in Chapter 2 (Rowley, 2012). The minimum number of interviews required for a qualitative, single case study with embedded units should be five participants. I continued past this number, reaching data saturation at 11 participants with repetitive information beginning in Interviews 9, 10, and 11 (Halkias & Neubert, 2020; Schram, 2006).

The entire interview process took 3 weeks to complete all 17 interviews, with a variance in response time from participants consenting and scheduling interviews due to their work overload. This process consisted of identifying potential participants and following up with them after their interview with the transcripts.

Reflective Field Notes and Journaling

During the study, I kept reflective field notes to include recruiting participants, progressing with feedback, and recording any contextual information relevant to the study, using Microsoft Outlook to preserve communication with prospective participants and confirmed participants. During the interviewing process, I used reflective field notes to note any responses that stood out or any notable lapses in response to questions. The Zoom interview recordings were audio only, so the only incidences I noted were those that were verbally expressed mannerisms, tones, or attitudes during the interviews that stood out or caught my attention.

Transcript Review

After each interview, I downloaded the recorded data from Zoom and uploaded it to a transcription service. I used Rev Transcription Services (Rev.com) for the transcription of the participants' interviews. After receiving the transcribed data for each participant, I copied the results and pasted them into a Microsoft Word document. I used the "Find and Replace*"* function to remove the participant's names and replaced them with pseudonyms (P1, P2, P3…., P17) for each participant, for each question listed, and saved in a password-protected file using the respective pseudonym names. The transcribed data were sent to each participant by email to confirm that the transcription of their interview responses represented their views during the interview, called *member checking*. Member checking through the transcript review process helped improve this research's accuracy and credibility, as any thoughts that participants felt were not clearly expressed were cleared and corrected as appropriate (Yin, 2017). I had no participants

respond, requiring adjustments to their transcripts. Out of 17 total participants, six replied validating their data, leaving the remainder of participants' transcripts to be considered validated due to their lack of response as instructed by the procedures listed in the informed consent section for member checking. The verified transcribed data were stored in a secure file under the data security plan established for the study in Chapter 3.

Data Analysis

I began data analysis after completing the member-checking process for the transcribed data with all of the participants. I adopted a descriptive coding strategy recommended by Saldana (2016) to assign meaning to segments of raw data collected for this study and used the emerging words from the descriptive coding for categorization and thematic analysis. The raw data transcribed and confirmed through the member-checking process presented a detailed account of knowledge workers' perceptions on the interface of technostress and ICT-induced presenteeism on their work productivity.

Coding drives data collection in a case study design (Saldana, 2016). Considering that case study involves in-depth, futuristic, and holistic investigation into all aspects of the case and provides industry-related data that are not anticipated by literature (Yin, 2017), this study provided detailed information on the unexplored area of knowledge on the interface of technostress and ICT-induced presenteeism with the participant sample of 17 knowledge workers being the embedded units within the case. Because the inductive approach is used in qualitative research to generate or broaden theory and allow themes to emerge from data (Saunders et al., 2018), I used the inductive approach as part of my analysis strategy for this study for themes to emerge.

Knowing that thematic analysis emphasizes identifying, examining, and recording meaningful patterns within data and are propelled by the systemized raw data coding process (Yin, 2017), I applied thematic analysis for this study to examine meanings and describe the social reality of the 17 participants through their experiences with technostress and ICT-induced presenteeism. The thematic analysis process I deployed while analyzing textual data supported me in developing themes to answer the study's central research question (Saldana, 2016).

Manual hand coding through a systematic process framed in the descriptive coding method was used in the thematic analysis for this study (Saldana, 2016). I adopted the descriptive coding method (Saldana, 2016) to assign meanings to raw data segments, which led to the emergence of lists of words, phrases, or both for indexing and data categorization. The use of Microsoft Excel software aided me in the manual hand coding of the participants' transcribed interview responses. The coding of words and phrases combined with data triangulation brought about a substantial recognition of patterns, while detailed attention to similarities and differences in the pattern improved upon the study's dependability (Yin, 2017).

I adopted the *ground-up* data analysis strategy (Yin, 2017) and generated codes from the transcribed data using the inductive analysis approach (Boyatzis, 1998). The inductive analysis involves coding the data without attempting to make the data fit into a preexisting coding frame or the researcher's analytic preconceptions. As in this study, a thematic analysis is considered data-driven when the codes are generated inductively (Braun et al., 2019). While utilizing thematic analysis, I carefully searched for themes

important to depicting the phenomenon, which involved a meticulous process of identifying themes through readings and a sound understanding of the data (Yin, 2017).

In this study, I utilized Yin's procedure for pattern matching. Thematic analysis was the core process of pattern matching and offered an effective and reliable data approach in a qualitative study. I compared the empirically based patterns with the predicted pattern, examined the matching range, offered rival explanations where necessary, and interpreted the result. I developed the splitting up or categorizing common codes, phrases, and words within the participants' responses using manual coding. I applied content analysis techniques for the primary data. I first identified codes in the main content through in-depth interviews and then created categories from the identified codes. I continued with the content analysis from primary and secondary data using a pattern-matching technique followed with triangulation by exploring patterns of similarity or difference among themes generated by the analysis (Yin, 2017).

The identified themes represented recognized patterns, reasonable and practicable agendas of the researcher, commonalities, and the research question (Yin, 2017). I classified several themes using coding analysis that recognized similar relationships within several cases with codes connecting data collections and combining themes across a few methodologies such as journals, interviews, and discussions (Saldana, 2016). The triangulation of data collection sources ensured rigor in evaluating data collected and improves the study's overall quality (Yin, 2017).

Attitude is usually passed across using signs that are conveyed verbally, with their body language, and so on (Stake, 2010). I recorded these signs in several ways to enhance

the development of context-based reports of unspoken character, which allowed for a more comprehensive memory. I shared records of electronically transcribed research participants' responses individually with the respective participants to examine and verify the accuracy of interpretation and assess the researcher's reflexivity and perspective (Merriam & Tisdell, 2015).

The next step was to interpret the data analysis that involved comparing various themes from the data analysis generated through multiple sources (interviews, field notes, and archival data) and compared the findings with the literature review's theoretical proposition. Yin (2017) noted that the strength of case study findings rests in their ability to be generalized to the theoretical propositions established from the literature. To this end, this study was framed by the concept of presenteeism developed by Lohaus and Habermann (2019) within their comprehensive presenteeism model and grounded in Johns's (2010) framework model of presenteeism. The alignment of this conceptual framework to the overall findings from the case study research was essential in interpreting the result to arrive at a deeper understating of how knowledge workers perceive the interface of technostress and ICT-induced presenteeism on their work productivity.

Though manual descriptive coding is laborious, it helped me delve deeper into the data (Cronin, 2014) with a deeper contextual understanding (Finfgeld-Connett, 2014). As a novice researcher, I found the descriptive manual coding method more effective and suitable for my data analysis than computer assisted qualitative data analysis software. This data analysis was structured following Yin's (2017) five phases of analysis-

assemble, collect, interpret, disassemble, and conclude the data. The sources of data were interviews, reflective field notes. This methodological triangulation enhanced the dependability of the results.

The six coding categories are based on the conceptual framework, and the 24 themes gleaned from the thematic analysis and areas are listed below:

Work conditions of today's knowledge worker

- distribution of daily work-related screen time
- work setting conditions
- employer's work productivity expectations

Antecedent factors leading to presenteeism

- driven by performance goals
- fear of employer disapproval and job loss
- personality traits
- job demands and work culture
- health locus of control

Decision-making factors leading to presenteeism

- job-related factors
- personal-related factors
- health-related factors
- psychological factors leading to presenteeism

Consequences of presenteeism

- physical technostress symptoms

- psychological technostress symptoms
- work-related consequences of presenteeism
- work-life balance consequences of presenteeism

Presenteeism consequences on work productivity

- lowered work productivity
- increased anxiety and depression leading to lower attention-span
- long-term IT specialists cope better with chronic screen time
- compromised work-life balance

Knowledge workers' views on technostress prevention for better work productivity

- train management on technostress prevention
- companies promote a healthy and safe work culture
- the Millennial/Gen X effect on presenteeism
- personal decision and commitment to healthy work-life balance

The six conceptual coding categories are grounded in the study's conceptual framework developed by Lohaus and Habermann (2019) within their comprehensive presenteeism model, a decision-integrated model of presenteeism distinction between causes effects. Lohaus and Habermann's theoretical work on presenteeism is grounded in Johns's (2010) framework model of presenteeism. The *comprehensive presenteeism model* (Lohaus & Habermann, 2019) was also grounded in Cooper and Lu's (2016) theory of presenteeism, where contextual variables (social norms, organizational support, cultural values, and arrangements for replacement) are differentiated from personal

variables and social-cognitive processes (e.g., personality traits, engagement in work, and gender).

Contrasting with previous models, Cooper and Lu's (2016) theory of presenteeism incorporated the psychological mechanisms at play in the process, thus making it more comprehensive. Lohaus and Habermann (2019) commented on Cooper and Lu's theory by assuming employees may choose presenteeism to avoid others' disapproval. A particular group of knowledge workers may opt for presenteeism as a way to demonstrate their strength because of the continued increased technostress strain on employees (Lohaus & Habermann, 2019). Considering that stress is generated by presenteeism itself (Liu et al., 2020) and that technostress is identified as a critical element triggering presenteeism in knowledge workers (Luoma et al., 2020), scholars called for further research to identify whether presenteeism would increase the duration of demonstrated presenteeism (Liu et al., 2020; Luoma et al., 2020; Zhao et al., 2020).

Presenting case study research findings can be done in different styles according to the work's purpose, the kind of analysis undertaken, and the intended readership (Boyatzis, 1998). In this case, participant quotes' personation of category and themes considers that one of the research goals was to give voice to a previously unheard population through this purposive sample (Gregory, 2020). The following is a description of the finalized coding categories and themes of this single case study with embedded units, along with respective examples of participant quotations (Table 2) to represent each of those categories and themes.

Table 2

Coding and Theme Examples

Participant	Interview Excerpt	Category	Theme
Participant 1	"For the most part, yes. There were times that we didn't, but they were fairly rare. Our manager paid us overtime, but it was also expected that we would have to have overtime."	*Work conditions of today's knowledge worker*	1) distribution of daily work-related screen time; 2) work setting conditions; 3) employer's work productivity expectations
Participant 4	"Yeah, I would say there is some support, but it's almost a cultural thing with software development, that there's a certain level of diligence required before question is warranted. And many people won't even answer or give you the time unless you've done all of the possible ways."		
Participant 2	"That employer and multiple managers, if you will, regardless of level would expect either evenings or weekend's work and it wasn't asked. It was assumed. And there was really no time that really can be considered personal time."		
Participant 5	"Especially in consulting, they're charging clients a lot of money. My bill rate is very high so there are expectations by the client that they're going to get that bill rate and more.	*Antecedent factors leading to presenteeism*	1) driven by performance goals; 2) fear of employer disapproval and job loss; 3) personality traits; 4) job demands and work

Participant	Interview Excerpt	Category	Theme
	There's a lot of pressure from that perspective as well, to perform."		culture; 5) health locus of control
Participant 9	"One of the factors of working as a knowledge worker working remote is that there is almost always an additional amount of work."		
Participant 13	"I think that over time, being aware of this, and frustrated by it, certainly increases the level of stress that I operate under. I think that it causes me to have to seek activities that are designed to reduce stress more if I want to maintain a certain level of healthy lifestyle."		
Participant 10	"Pretty much, unless I am incapable of going in or incapable, well not even that nowadays, even when I'm hybrid, unless there's a reason that I could not be in front of a computer, I always am expected to work. I'm not mandated to work, but there is that level of expectation in my position that I should be working even when I'm sick."	*Decision-making factors leading to presenteeism*	1) job-related factors; 2) personal-related factors; 3) health-related factors; 4) psychological factors leading to presenteeism

Participant	Interview Excerpt	Category	Theme
Participant 7	"The need to make money. And meet my obligations to the family, primarily."		
Participant 3	"Yeah. From the little IT that I do in the civilian side, it's kind of burned into from the military. A big part of it is I need to go to work. I need to make money to support my family. So, suck it up buttercup, get to work. I got kids and a family to feed."		
Participant 6	"The nature of my job is now 100% remote. And in order for me to do my job, I now have to do it via the computer, looking at a camera all day long. So it locks me in one position. My schedule is very packed, for lack of a better term, and so, I will frequently go hours without getting out of my chair, as I go back-to-back to back to back meetings. And as a result, it doesn't give me the opportunity to stretch. It doesn't give me the opportunity to relieve position, fatigue, et cetera, and that causes the aforementioned muscle problems and the eyestrain."	*Consequences of presenteeism*	1) physical technostress symptoms; 2) psychological technostress symptoms; 3) work-related consequences of presenteeism; 4) work-life balance consequences of presenteeism

Participant	Interview Excerpt	Category	Theme
Participant 15	"I daily experienced symptoms of technostress because of the number of hours I was using some form of screen. But I tended to push through them, whether they were sleep disruption, joint pain, physical pain from just being immobile for long hours at a time, even just the brain fatigue that we have after we've been online for too long. I would just continue it because I was more driven by the work that needed to get done."		
Participant 12	"If you're getting pulled in multiple directions by multiple people, and you're home alone, not getting direct help, it can definitely affect your productivity, whether it be being stretched too thin or just ... and it makes it tougher to organize, and organize your thoughts, and execute."	*Presenteeism consequences on work productivity*	1) lowered work productivity; 2) increased anxiety and depression leading to lower attention-span; 3) long-term IT specialists cope better with chronic screen time; 4) compromised work-life balance
Participant 8	"It's dangerous because like when I was saying with the working that time until the job's done . . . it's been like 11:30 at night and it's because the jobs have to be done. And then he's driving home, he's super tired that he has to get up again the next day		

Participant	Interview Excerpt	Category	Theme
	and just keep doing that. So definitely it is draining and dangerous."		
Participant 16	"So when we have one man down, it could push it to an extra week . . . I have to increase the stress on the other staff, who have to take on the extra load due to one man down. And with their stress levels high, it does impact productivity because they become more fatigued. And we find that sometimes the quality of the work is impacted because they can't take breaks . . ."		
Participant 14	"Well, I mean, so if we were to do it in an ideal way, we would have maybe three different shifts covering eight-hour periods throughout the day so that there's always someone up and available to handle any kind of issues. But it would be really expensive to do that so it's not reasonable from a business standpoint to do that."	*Knowledge workers' views on technostress prevention for better work productivity*	1) train management on technostress prevention; 2) companies promote a healthy and safe work culture; 3) the Millennial/Gen X effect on presenteeism; 4) personal decision and commitment to healthy work-life balance
Participant 17	"I think my main points are, when I'm sick let me be sick. I don't feel like if I'm sick and I've given you that reason for not showing up to work that I should be giving you an update on		

Participant	Interview Excerpt	Category	Theme
	things that I need to be doing. Because otherwise I'd be at work."		
Participant 11	"I think for me, I need to take a deep breath. So for me, it's more just getting outside, forcing myself to leave the computer, forcing myself to put in a scheduled appointment for taking a brain break, if you will, and getting some fresh air . . . to get outside a little bit helps me deal with being forced to work."		

As previously noted, each of the themes belongs to their respective conceptual categories (see Table 2). The frequency of occurrence varied for several themes so that some cases presented themes that were more prominent than others. These themes will be defined and discussed in detail in the Study Results section of this chapter.

Evidence of Trustworthiness

Credibility

Credibility in a study can be found in confidence in the study's truth and the findings (Lincoln & Guba, 1985) and is considered the most crucial criterion (Polit & Beck, 2014). I demonstrated that the presented findings represent the phenomenon's accurate picture (Shenton, 2004). The concept of credibility is analogous to internal validity in quantitative research (Connelly, 2016). Triangulation, prolonged engagement, peer debriefing, and member checking were techniques utilized for establishing the

credibility of this study (Lincoln & Guba, 1985). However, I used only triangulation, prolonged engagement, and member checking to achieve a credible study.

The first step in achieving credibility was to inform the participants of their voluntary choice to participate and their confidentiality regarding the study, which allowed me to acquire conversational and in-depth responses from the participants as they were being interviewed in a comfortable atmosphere at the location of their choice. Second, *member checking* allowed the interview transcript to be reviewed and corrected by the respective participant (Merriam & Tisdell, 2015). Third, prolonged engagement, saturation, consistency, digital recording, and audit trail enhanced data conclusion credibility (Cooper & White, 2012; Yin, 2017). Fourth, ensuring the inclusiveness of the participants who met the inclusion criteria of being an adult over the age of 18, 3 years minimum experience as an ICT knowledge worker, and possessing knowledge regarding employment conditions in a technology-infused workplace, also helped improve the credibility of the study (Merriam & Tisdell; 2015; Yin, 2017).

Transferability

Transferability occurs when the extent of a study's findings is transferable to other contexts, settings, and participants (Burkholder et al., 2016; Korstjens & Moser, 2018). The researcher needs to provide enough details of the context and to set encountered during the fieldwork so that another researcher can assess whether the current environment is similar to other settings. The assurance of transferability is critical to my study so that the findings from my study on the perceptions of knowledge workers on the interface of technostress and ICT-induced presenteeism on their work productivity

may allow management to discuss how technostress and ICT-induced presenteeism affects the work productivity of knowledge workers in any position in the information and communication technology field. The strategy used to establish transferability in this study is called a *thick description*.

To achieve transferability, first, I detailed a thick description of the context, the setting, and method adopted for the research in the research design to help any researcher seeking to replicate this study within a different context in the future to make a reasonable judgment that will aid and ease the transferability (Morse, 2015). Secondly, the interview questions were contrived from the literature on the conceptual framework that supported the study that provided a high probability of transferability. Finally, the use of the LinkedIn professional platform to recruit participants for the study and Zoom for the participants' interview for this study provided a sustained unbiased environment (Yin, 2017), allowed ease of access to distant prospective participants (Seitz, 2016), and aided the replication process (Gray et al., 2020).

Dependability

Dependability in the research process occurs when there is a consistency of the findings over time that can be replicated by other researchers (Billups, 2014; Korstjens & Moser, 2018). The importance of dependability is essential to the study's trustworthiness, as the research audience must be ensured that if other researchers review the data, they will arrive at the same conclusion. In qualitative studies, the data collection procedures, analysis, and interpretation leading to the findings are reliable and dependable.

To achieve dependability, I first adopted audit inquiry and documented a detailed account of the research process from data collection to the research findings, which eases the study replication, thereby aiding the study's dependability. Second, after verifying and ascertaining that the transcripts produced from the digital recording were an accurate representation of the participants' responses during the interview and the participants' validation of responses and before coding commenced, I carefully documented the semistructured interview questions (Appendix C, Interview Protocol) from which the responses were generated alongside other multiple sources used to triangulate themes.

Third, repeating participants' inclusion criteria in the recruitment letter (Appendix A) and further confirming at the beginning of the interview from participants gave credence to the findings' dependability. Fourth, I used an interview protocol that was successfully field-tested by the author of the original interview protocol, Dr. Luke Fiorini, SME expert, and Director and Lecturer, Centre for Labour Studies at the University of Malta, that enhanced the study's dependability (Barusch et al., 2011).

Confirmability

The last criterion to establish the trustworthiness of a research study is confirmability. The confirmability criterion verifies that the research findings were derived from the participants' narratives and other data sources for the study, rather than the researcher's biases, motivation, or interest (Lincoln & Guba, 1985). The confirmability criterion precipitates neutrality, impartiality, and the precision of the data, interconnecting dependability because both confirmability and dependability can be established at the same time (Gibson et al., 2013; Houghton et al., 2013; Walker 2012).

This study used an audit trail and reflexivity to achieve confirmability (Lincoln & Guba, 1985).

First, to ensure confirmability, I utilized design instruments that I did not manipulate, thereby being consciously aware of my positionality as an instrument of the research. Second, Dr. Stephanie Hoon, being the methodology expert of my dissertation committee and serving as the external auditor for my study, audited the study process to ensure alignment between the collected data, data analysis, research findings, interpretation, and recommendation. Finally, I used reflective field notes throughout the study to record and review my observations and interpretations to mitigate the researcher's bias to help uphold the study's confirmability (Morse, 2015).

Study Results

A specific purpose and research question guided research for this single case study with embedded units (Yin, 2017). Meeting this exploratory study's purpose may address the literature gap of very little or no literature on tech workers' experiences with presenteeism and its interface with work productivity. Researchers have investigated this issue, supporting knowledge workers coping with technostress and how managers usually know little about ICT-induced presenteeism's interface on employee performance (Karanika-Murray & Biron, 2020; Liu & Lu, 2020). I answered the central research question "How do knowledge workers describe their perceptions on the interface of technostress and ICT-induced presenteeism on their work productivity?" by interviewing knowledge workers regarding their perceptions of technostress and ICT-induced presenteeism.

Knowledge workers' perceptions on this topic were revealed in this case study, with patterns and themes developed from the raw data collected from the interviews and subsequent data analysis. Thematic analysis of the textual data identified these patterns and themes. The process consisted of comparing diverse themes from the data generated from multiple sources (interview, field notes, archival data) and correlating the theoretical proposition generated from the literature review.

The strength of a case study finding rests in its ability to be generalized to the theoretical propositions established from the literature (Yin, 2017). Given that this study was framed by Lohaus and Habermann's (2019*) comprehensive presenteeism model*, grounded in Johns's (2010) framework model on presenteeism, the alignment of the conceptual framework to the overall findings was essential in interpreting the results allowing me to arrive at a deep understanding of how knowledge workers described their perceptions on the interface of technostress and ICT-induced presenteeism on their work productivity.

Comparing the findings with findings from similar studies helped me to validate the findings of the other studies. Data that are found to be out of congruence with the pattern or explanation emerging from the data analysis are called *discrepant cases* (Walsh et al., 2015). Analyzing, interpreting, and reporting discrepant cases is essential to help the researcher broaden, revise, or confirm the patterns emerging from the data analysis and strengthen its credibility. The final step of case study research is to report the case study (Yin, 2017). I used thick descriptive narratives to report the case study's outcome and presented my research audience with a comprehensive picture of how knowledge

workers perceive technostress and ICT-induced presenteeism's interface on their work productivity. There were no significant discrepant data found or that reached data saturation to influence the study's findings.

All of the data collected in the data analysis from rendered interviews, field notes, member-checked transcriptions, and findings reflect what is exhibited in the seminal literature (Yin, 2017). I used thematic analysis recommended by Yin (2017) to categorize data from my research to understand the study participants' views, behaviors, or qualities in a natural setting to answer the central research question (Yin, 2017). Literature provides no specific procedure on how to develop a rigorous and relevant thematic analysis. However, the discussion of a thematic analysis should provide a logical, coherent, concise, non-repetitive, and unassuming account of the data within the identified themes (Boyatzis, 1998; Yin, 2017).

The researcher's data analysis is deemed rigorous to case study data analysis when applying any of Yin's (2017) five analytical techniques – pattern matching, explanation building, time-series analysis, logic models, and cross-case synthesis. I applied rigor by adopting pattern matching logic that addressed the "how" of my case study research question. Pattern matching occurs when the predicted pattern is compared with the empirical pattern. Through the deduction of critical propositions that emerged from the literature review and my knowledge of technostress and presenteeism in reviewing the literature, I was able to predict the study's findings. Empirically based patterns were revealed as a result of the findings of the data analysis.

This section's remainder contains 24 themes that emerged from the thematic analysis and are defined through a summative statement delineated from the participants' responses to the interview questions. Supportive summative statements on each theme are represented by direct quotes from the participants that define each theme's complex views. Each theme was relevant to the purpose of the study and directly related to the research question. Table 2 reflects the relationship between the participants' responses and the emergent coded themes.

Each theme's response listed below is direct quotes from the participant's voice to provide contextual, detail-rich data and enhance the study results' confirmability. Interview responses were carefully analyzed with self-reflection represented through my reflective journal notes during data collection. I used triangulation of findings to ensure that the results emerged from participant-driven experiences and not my predisposition by turning written data into findings during the data analysis process.

Distribution of Daily Work-Related Screen Time

This term refers to the extent of the work-related variables of the participants' daily computer/online/screen use directly related to their job duties. Flexible working conditions, such as those experienced by ICT knowledge workers, place increased demands on employees, requiring self-regulation with the sole responsibility of goal attainment. These flexible working conditions may lead to a self-endangering strategy of working while ill (presenteeism) meeting self-imposed goals (Deci et al., 2016). Self-endangering strategies positively affect emotional exhaustion and psychosomatic complaints above that of engagement and disengagement coping strategies, work

demands, and work resources (Baethge et al., 2019). Participants reveal the extent of their daily exposure to technology via their screen time.

Participant 9:

> I am probably an anomaly in the fact that I have three jobs. I have a full-time job and two part-time jobs. So, my day typically starts about 8:30, actual workday. Obviously, other things go before that, but workday starts about 8:30. I usually eat while I am working, take no more than about a 30-minute lunch. And I'll wrap up about 5:00, go to the gym for about an hour, and then come back and probably put in another couple of hours' worth of work. So, a given day is generally between, oh, generally between nine and 10 hours a day.

Participant 11:

> So the amount of time that I spend on the screen for my job-related duties vary quite a bit. I'm a global employee. So, there's several situations throughout the year that I will meet with my team on a virtual basis early in the morning, so 2:00, 3:00 in the morning. And then of course, I live in the US, so there's a number of US calls that take place later in the day. So, the time that I spend on my computer can vary anywhere between, I would say, 9 and 14 hours a day.

Participant 12:

> I specifically work in incident management, and I work 12-hour shifts, three days on, three days off. So, I essentially work 48 hours a week and I worked 12-hour shifts. During those 12-hour shifts, I'm basically required to be attentive that entire time. So, I get bathroom breaks and whatnot, but during that 12-hour shift,

> I'd say about 11 hours of that 12-hour shift, I am in my chair, in front of my laptop.

Participant 15:

> "Up until January of 2020 things have changed dramatically. Prior to that, I was easily on some device 60 to 80 hours a week, whether it's my phone, tablet, or laptop. And I have worked in higher education 25 years. And so that 60 to 80 hours was consistent throughout that period.

Work Settings Conditions

This term refers to knowledge workers' conditions in their flexible working environment. A study by Brunner et al. (2019) questioning who gains the most from improving working conditions suggested that job stressors have a more substantial effect on health-related productivity losses for employees lacking personal and job resources and that employees with high levels of job stressors and low personal resources will profit the most from an increase in job resources. Participants recount how positive and negative working conditions affected their work productivity.

Participant 1:

> For the honking ring from an iPhone that sounds like an emergency alert, so it was the one I knew I wouldn't sleep through, and hearing that going off at two o'clock in the morning or even three o'clock in the afternoon on a weekend was very stressful. It got to the point where the only, even if you're not on call, as the designated person you are still functionally on call because you might be the one who has the expertise required to solve a problem, and so you might have to come

in at any point. And that's fairly standard in IT, healthcare or otherwise, but it also meant that I never felt like I was home from work.

Participant 3:

I would say no. It would still be that way. That's just how it is. You've got a mission and you've got to get it done. So there, it's all-hands-on-deck. There's no, "Oh, my eyes hurt. I have a migraine. My back is so locked up from sitting in a chair for the last 20 hours and getting four hours of sleep and being back at work. I'm in pain from my back," or whatever. They don't. Get over it. Suck it up.

Participant 4:

I'd say, having a really good ergo type of setup is paramount. For what I do, I think the business is not investing in highly ergo chairs, computers levels, accommodating what's comfortable for every user, because each user can be different is one of them. It's severely overlooked. This is probably more important than the coffee, or the ping pong, or anything else is having the most comfortable chair possible. Maximum size of screens, maximum number of screens, the best peripherals possible. Since I've been working at home, the level of productivity has gone up dramatically. Because I have three enormous screens, a leather recliner, and I basically lay down and look up at my screens. And all the rest of the time that I've been working in technology. It's never been, I've had decent chairs, a couple monitors, but now it's radically better.

Participant 6**:**

> The nature of my job is now 100% remote. And in order for me to do my job, I now have to do it via the computer, looking at a camera all day long. So, it locks me in one position. My schedule is very packed, for lack of a better term, and so, I will frequently go hours without getting out of my chair, as I go back-to-back to back-to-back meetings. And as a result, it doesn't give me the opportunity to stretch. It doesn't give me the opportunity to relieve position, fatigue, et cetera, and that causes the aforementioned muscle problems and the eyestrain.

Participant 11:

> Well, I think with virtual learnings at this point in time, the challenge is with having these virtual meetings is that the calendar just gets full. Your calendar is open to your colleagues. And so, if there's a 30-minute time slot that's open, and you thought you might have a little bit of time to get some work done, a PowerPoint, which you're still on your screen for, but at least you're not in another meeting, that time gets taken away from you quite quickly. So, I think one of the challenges is that, in the virtual setting, the lunch breaks go away, the coffee breaks go away, and it's just simply call, after call, after call. And I think that induces a level of stress, because you're not having that reprieve from your screen and from your day-to-day activities, which I think typically allows you to have a little bit more of a refresher in your day, when you have those breaks. It's good for your brain.

Participant 16:

> Well, the job that I do involves a lot of mental stimulation. I have to think, particularly as a programmer, I have to think about the code I'm going to write. And sometimes it involves working with different teams in different regions, even language barriers. So, I have to keep up with it. So even regardless of whether I'm tired or not, I have to keep up with the different time zones, which also explains why I have to sometimes work 12 hours, because some are on the East coast, I'm in West coast, some are even abroad in different zones.

Employer's Work Productivity Expectations

This term refers to management expectations placed on knowledge workers that are either spoken or unspoken yet understood. Although advances in technology have presented greater freedom for knowledge workers to perform their jobs, at the same time, they have required greater responsibility (Carpenter & Lertpratchya, 2016). Evenstad (2018) provided a prospective study on acceleration and ICT workers. The study's ICT workers experienced acceleration from constant time pressure, work intensification, hyperconnectivity, frequent organizational changes, short-termism, and rapid technological changes. The workers suffered from stress, burnout, and work-family conflicts while feeling alienated and dehumanized at work. Participants describe how underwritten expectations by employers to perform without personal considerations were commonplace working conditions.

Participant 1:

> Absolutely. It was understood that during large software conversions pretty much everything else in our lives besides work had to step aside so that we could get through the large-scale software conversion. I worked the last two years in healthcare IT, so it feels much, much more life or death than any other IT positions that I have worked. And typically, my days were 18-hour days, even though I was only hired to work eight-hour days. And there was the expectation that you couldn't say no.

Participant 2:

> That employer and multiple managers, if you will, regardless of level would expect either evenings or weekend's work and it wasn't asked. It was assumed. And there was really no time that really can be considered personal time. And being in those seven years I worked solely from home was a remote worker. It wasn't just assumed by me. It was spoken out loud that they didn't care if you were sick or feeling well. You were still expected to get the things done that you needed to get done regardless of physical ability.

Participant 10:

> Pretty much, unless I am incapable of going in or incapable, well not even that nowadays, even when I'm hybrid, unless there's a reason that I could not be in front of a computer, I always am expected to work. I'm not mandated to work, but

there is that level of expectation in my position that I should be working even when I'm sick.

Participant 12:

I think the stress for me would be just the amount of time and the attached-ness that you have while remote, because if your boss contacts you, you are almost immediately available to help, versus when you're in the office, that's the hours they get from you. Correct, or availability to be connected, really. So, if I stepped away for ... ended my shift technically, and an hour later my boss contacts me, I can be at my computer in five minutes, just because that's all that's required.

Participant 15:

I've worked in remote positions, again, the large majority of those 25 years. And there was an expectation by the employers I had throughout that process, that we were accomplishing some pretty great things in distance education. And there was expectation that because you were a remote worker, that you should be able to perform more. It was always a direct expectation. I had an employer about 10 years ago that there was also great financial incentive. If you were willing to go above and beyond those hours, any human capacity, you were greatly rewarded financially as well. So that was always there as a carrot, too.

Driven by Performance Goals

This term refers to those driven by performance goals that will seek to avoid others' risk of delivering an unfavorable evaluation (Cooper & Lu, 2016). Those with mastery goals will pursue challenging situations. Both performance and mastery goals

seekers will choose presenteeism - performance to avoid other's disapproval, mastery to choose a way to demonstrate their strength (Lohaus & Habermann, 2019). Participants expressed an intense desire to perform despite experiencing physical ailments or debilitating illnesses to achieve their goals and not let the employer down.

Participant 4:

> Well, there's the aspect of my particular career field in ICT would be software development and it's very demanding. And there's a certain progress, learning progress required. So that's a motivation, but that's the carrot and then the stick is the employers have unrealistic demands and unrealistic timelines. So, I fortunately don't get sick very often, but when I am sick, I still go to work anyway. I almost never take time off work for being sick because I need to keep progressing both at the company I'm working at, at that role, but also the absolutely imperative advancement of my skill set in my career individually. It's my advancement professionally and my career is more important than my personal health. And being sick is really just a speed bump. It just slows it down, but I can still keep going.

Participant 8:

> So I had, actually, it was a little bit before the second deployment. It was when, I don't know if you remember when the H1N1 kind of swept through the country. Well, they decided to try to inoculate us. And they actually gave it to me. And so, I was at work and I was doing something for out battalion commander and my boss walked in, because one of my soldiers told me, he was like, Hey, you need to

go to the hospital. I was like, no, I have to do this because the commander said he wanted it done. And that was a lot of our job. We service the commander, the boss, the boss's boss, the super, like the big, big boss. And so that was my job to make sure those three were all taken care of. So regardless of how I was feeling, I had to make sure it was done. So, my soldier walked by me and he felt the heat I was generating. And so, I wouldn't go, so he told my captain. He came in with a medic and I had a 103.1 temperature and I was still like, I was out of it. But I ended up getting the H1N1 because of the, I guess, booster or whatever vaccine that they tried to give us. And I definitely obviously should have been home.

Participant 9:

You really could, but they don't, right? And I think it's just a factor of the industry that I'm involved in. I was a CIO for many years. There were lots of times I worked from home, and I experienced the same thing with my workers who were remote for help desk and my folks that would travel, that basically it's very difficult to disengage when you are actively involved in a task, and you feel like if I don't finish it now, then it doesn't get done, which may or may not be true. Generally, I think it is not true. And it's a perception that actually causes greater damage psychologically and physically than it actually produces efficient and proficient work.

Participant 11:

At the end of the day, you miss a day of work, the work still needs to be done. So, for me, it's more stressful to miss days of work, when I know that if I miss a

> Tuesday, I'm going to have to make it up on a Saturday. Or if I miss a Wednesday, I'm going to have to make it up on a Saturday or whatever it will be. The work is still going to be there. I still need to get things done.

Participant 15:

> But I tended to push through them, whether they were sleep disruption, joint pain, physical pain from just being immobile for long hours at a time, even just the brain fatigue that we have after we've been online for too long. I would just continue it because I was more driven by the work that needed to get done. And I was very self-driven by this intrinsic motivation I have to just beat deadlines, and accomplish more than my coworkers or whomever I felt I was in competition with, I guess.

Fear of Employer Disapproval and Job Loss

This term refers to the fear of employer disapproval and subsequent job loss due to downsizing or permanency in employment, attributable to knowledge workers' field with contract or gig work most prevalent. Simpson (1998) wrote how fear of job loss might reduce absenteeism due to job design changes that make absence less viable, increased workload, or flatter organizational structures that increase competition for promotions and demand visible symbols of commitment (Johns, 2010). Participants recount how the fear of losing their job caused them to go to work even when they experienced severe illnesses that necessitated them taking time off of work.

Participant 1:

> Correct. I went to the hospital with flu A and B simultaneously and continued to work. Actually, the eventual end of that position was I was expected to come in while under quarantine for COVID-19 by the Georgia Department of Public Health. And my co-worker, who was also coming in, had a husband who had previously had one lung removed for medical reasons. My desk was about four feet from hers and I refused to come in and my employer refused to negotiate a remote work agreement while I was under quarantine, which eventually led to my termination.

Participant 2:

> So yes, absolutely at the time, which I wholeheartedly regret, I had a fear of being put on that next list and being downsized. And the very sad part of it is there were times that myself and co-workers, generally one on one at different points of time, would joke about that we were abused. And I forget the psychological term for it, but it's almost like you were looking forward to being abused. I'm trying to remember the term. Yeah. It was like you were conditioned for it and it became part of the norm. So, you were used to it and it was very cultural.

Participant 10:

> Just the fact of maintaining that I have a job. If I'm not there and I'm not doing that, I will be frowned upon as not upholding, you know, what they anticipate is a good employee and I could be let go due to the fact that we are at will. The

company I worked for is in Rhode Island and Rhode Island's an at-will state. So, they don't even have to give reason for firing.

Participant 13:

I think it's a couple of things. One is the strong desire, not to let other people down, and I think that there is a pressure that's involved in this industry where there is a high level of competition, so that you feel like everything that you do is being monitored, and so you always have to have in your mind what effect not going or being near could have if it were made an issue.

Personality Traits

This term refers to the personality and disposition that exhibit modest associations with absenteeism (Johns, 2010). Those with low self-esteem or that find it hard to say no to others were prone to attend work while ill (Aronsson & Gustafsson, 2005). However, incorporating personality and work attitudes into presenteeism allows for considering "good presenteeism" by those who are conscientious or satisfied with their jobs (Johns, 2010). Participants expressed how their personality dictated their personal work ethic of conscientiousness.

Participant 3:

Yeah. From the little IT that I do in the civilian side, it's kind of burned into from the military. A big part of it is I need to go to work. I need to make money to support my family. So, suck it up buttercup, get to work. I got kids and a family to feed.

Participant 12:

> Usually it's wanting to not get behind in my duties, or the knowledge to do my duties. So, yeah, I usually like to just be in the loop of what's going on, and so I don't get left behind or out of sync with the rest of the team.

Job Demands and Work Culture

This term refers to the physical, cognitive, and social features of a job that necessitates protracted physical and psychological efforts (Johns, 2010). Employees in high-demand jobs would be inclined to attend when ill to maintain higher performance levels (Demerouti et al., 2009). High job demands are associated with presenteeism and burnout. Participants discussed how management and peers provided pressure to work despite the presence of illness.

Participant 1:

> My bosses, I don't know how it came out that I was a Sabbath keeper and I that I was not expected to work on those dates, but I was often pressured from other people in the department to work those days. It caused a fair bit of tension within the department that I would not violate Sabbath.

Participant 2:

> And management, it wasn't their attitude. It was flat out what they would say verbatim of, "If you're not willing to fulfill the needs of the business, then you should leave." And if I heard that once, I must have heard it a hundred times over a six-year period.

Participant 8:

> If a person stays home then we would have that much more work to do without all hands to do them. We tend to have longer days. On the other hand, if a person comes in sick, most of the time they are not focused and make mistakes. Those mistakes cost people time and it could lead to bigger issues further down the line. I would prefer if the person stayed home. More work is okay, but double work gets frustrating fast.

Participant 10:

> So when we were in the office, I did have employees that used to come in even when they were sick, because they just felt the same reasons. They were, you know, scared that management ... it was an old, very much, theory X management company, which has since changed. But at that point in time, employees felt that they had to come in and it made me very uncomfortable in the fact of, because I could get sick. You know, I tried to avoid them and everything like that, or I would yell and tell them they need to go home. That's also happened to me, people have told me I have to go home.

Participant 12:

> I definitely think, from what I've noticed, other people tend to take off for sick more often than I do. I still have my own set of feelings, and like I said, I don't like to get left behind, so I'd say it doesn't influence much of what I do, but I definitely think people take more sick time than I do.

Participant 15:

> In that middle part of my career, and up to the experience about 10 years ago, again, I was on a senior leadership team where everyone pushed themselves away beyond any healthy limits. People would pull all-nighters, and we were all in that high productivity mode and thought that was healthy, I guess, at the time.

Health locus of control

This term refers to the degree to which people believe that they, instead of external forces, have control over the outcome of events in their lives. In the case of presenteeism, perseverance in the face of adversity might be seen in the case of the conscientious, those with a strong work ethic, those with internal health locus of control, workaholics, or those who exhibit the trait of psychological hardiness (Johns, 2010). Participants expressed that in their attempt to control physical symptoms due to technostress, they chose to be proactive in their personal healthcare routines.

Participant 3:

> "I worked really hard at not ever letting it get to my physical. I kept myself working out. I kept myself running and stuff to keep myself physical there, but it definitely killed me mentally."

Participant 9:

> The high demands of meeting timelines and the time spent on my computer, tablet, or phone to respond to my students, colleagues, and supervisors means I spend a lot of time in front of a screen. The mental and physical demands of sitting for so long of the job sometimes take their toll and I just have to get away.

> While exercise and short work breaks are important, sometimes I just have to completely step away from all technology. For me personally, there is nothing better than an old-fashioned book, a hike, a run, a bike ride, something just to not deal with technology and my job.

Participant 11:

> I've never stayed home due to the stress. I think for me, I need to take a deep breath. So, for me, it's more just getting outside, forcing myself to leave the computer, forcing myself to put in a scheduled appointment for taking a brain break, if you will, and getting some fresh air.

Participant 13:

> I think that over time, being aware of this, and frustrated by it, certainly increases the level of stress that I operate under. I think that it causes me to have to seek activities that are designed to reduce stress more if I want to maintain a certain level of healthy lifestyle.

Job-Related Factors

This term refers to the ICT knowledge work-related factors leading to going to work while feeling ill. Work-related variables pertain to the work itself and its immediate periphery, such as the kind of work or profession, working conditions, and team members' and supervisors' behavior (Lohaus & Habermann, 2019). Participants explained work-related specifics attributed to being an ICT knowledge worker.

Participant 5:

> Let me put this in context. When we talk long hours, and this is something you might want to consider, there's long hours then there's long hard hours. What I mean by that, if you're doing an implementation of some sort, you know 10 or 15 days away from that implementation, you're going to be working long hours because there's a lot to do. Hard hours are something else.

Participant 13:

> Oh, sure. So, I don't experience illness often, but there have been a few times when I have gone to work, or at least twice, where I had, or was suffering, a cold. And just due to the fact that you have, in particular when you're talking about a Zoom meeting, scheduled a Zoom meeting well in advance, it feels quite stressful to at the "last minute" have to cancel that meeting. But being a lecturer and having a raw throat, it certainly is not good for me, and then in addition, there is the symptom of coughing, et cetera, that I have to deal with and be very conscious of, and even try to hit mute button, for example, before I cough. And of course, that in and of itself induces more stress, and I would think makes for a longer recovery period.

Participant 14:

> So if there is a catastrophic problem at one of our clients, there's some things that only I know how to fix. And so that pressure of just needing to be available in case something goes wrong. I feel like I can never like really detach from work.

Participant 15:

> And when you work remote, I think that's a challenge, is that even though my employer knew I had been in the ER several hours earlier, there was no release from their imposed deadline, that I was still expected to deliver. So, when you work remote, you still have a window of time, somewhere in 24 hours, to do something. And suddenly, I became very, very aware of how unhealthy that is.

Personal-Related Factors

This term refers to the attitudes, behaviors, and aspects of the individual situation and personality (Miraglia & Johns, 2016) and lifestyle and self-efficacy (Lohaus & Habermann, 2019). Employees will vary in their attitudinal/motivational path of productivity due to a host of personal and contextual circumstances, such as the exact nature of their health problems (Miraglia & Johns, 2016). Aronsson and Gustafsson (2005) wrote about a different type of attendance demand related to the individual's private life, i.e., their financial situation and other personal factors (Miraglia & Johns, 2016). Participants expressed their response to presenteeism based on their life situations.

Participant 3:

"Honestly, now my wife telling me I need to call in. I will just stay. I'm not good at limiting myself there. I don't do that very well."

Participant 7:

"The need to make money. And meet my obligations to the family, primarily."

Participant 8:

"My family. Everything I do is for my wife and my kids."

Participant 15:

> I always felt someone else was an underachiever up until I started having physical symptoms, I guess, that deterred my prior productivity levels. So, if someone was a remote worker, and they had a cold, and so they couldn't work that day, I didn't understand that at all. I was more on an employer side of things where I believe that with minor illness, you still work because you're at home. So why can't you be on your laptop or computer?

Health-Related Factors

This term refers to the health-related factors that lead to presenteeism. Per Johns's (2010) framework, health and illness are on two different ends of a continuum, and in less severe health events, the decision to attend work or not depends on the subjective evaluation of where on the continuum employees see themselves (Lohaus & Habermann, 2019). Participants conveyed their experiences of differing degrees of health-related factors.

Participant 2:

> When you don't get up... I mean, literally, I can tell you, there were a great many days where I really wouldn't leave my desk. Oh, and one thing that I forgot is I developed back problems during the time. Now, part of that is also age, but based on what the medical community has told me, sitting at the desk in front of the computer is one of the worst things you can do for your back. So, I developed back issues, but being in front of the computer all day long anywhere from eight to 12 hours per day without getting up and then feeling guilty taking a break or

actually taking lunch away from the computer in itself created a lot of stress. And then at the same time, headaches, tired eyes. I mentioned back problems, or wrist and elbow problems from using the computer and the mouse.

Participant 9:

I know that among my peers... And this is not me calling anyone out. But I know among my peers, health is not always a consideration. I can think of at least a few peers that I see on Zoom calls and I interact with and I'm fairly close associates with who are particularly overweight. They deal with health issues because they sit for so long, et cetera. And I think those are stressors that aren't necessarily categorically part of technostress, but they are the corollaries that are associated with it. And I don't think there's always a cost that's measured by employers of those kinds of folks.

Participant 11:

I think it's exponential, because, at the end of the day, you work one day where you're not feeling really well. And I think the long-term impacts... Even that week, so if I was sick on a Tuesday, and I went to work. Even like today, I'm tired today. I'm working today. I'm not taking the day off. But at the same point, even if I go to bed early tomorrow, I'm still going to be tired tomorrow.

Participant 13:

I would say not overt symptoms as a result of stress. I'm sure that my blood pressure, et cetera, it would be heightened during those periods, and for me, that is a bit of a concern as one who suffers high blood pressure.

Participant 14:

> So I would say that pre-COVID, coworkers would come in to work sick pretty often. And I would as well, if it wasn't that bad. But now with COVID going on, people stay home when they're sick just because that would be really frowned upon right now.

Participant 15:

> I did have that for so many years. So, then I also impose that on my own employees. And then now, when I had the experience of last year, where I had a serious health issue happened in January and was forced to get into a healthy cycle of less screen time, less repetitive motion, better sleep. I see how damaging it was, and how wrong and unhealthy it was for all of us on that team to impose those standards on other people as well, to go to work when they were ill.

Psychological Factors Leading to Presenteeism

This term refers to depression and related psychological problems to presenteeism that are not seen as a legitimate reason to be absent (Johns, 2010). Johns and Xie (1998) found that depression rated lower than serious illness, family illness, doctor's visit, minor illness, bad weather, or poor transportation in Canada and China (Johns, 2010). Participants expressed that stress and anxiety from their work's nature affected them psychologically, but they continued to press on because they feel like they have no choice.

Participant 3:

> I think I do have some... No, not think. I know I have some anxiety definitely linked to it, with the stress that came from sitting in front of the computers and working so long hours. You could come in one day; we were fixing an issue. But the next day it would be almost the same issue, but so much had changed in the programming already in just say 12, 18 hours that your fix wouldn't fix the issue again.

Participant 7:

> I worry some in real time communications, synchronous communications, I worry things might break down. Technology might break down. And a lot of times, the... Well, let's say technology, but I include the various devices, audio video, both from my side and the counterpart side.

Participant 10:

> It definitely does in the fact that if I'm increasing my stress and there's no like breaks and it's non-stop like that, I lose my ability to really pay attention to what I'm doing, my concentration. So therefore, I'm not as productive as if I'm well rested and not as stressed.

Participant 11:

"And then, I think maybe one that may or may not count for this would be a little bit of isolation, when you're speaking via the screen as opposed to that one-on-one human contact."

Participant 14:

> So I think one of the most stressful things about this job is that I feel I can never really unplug. I have a work chat on my phone that is going off at all hours of the night and morning. And even if I were to go on vacation, I feel like I probably need to bring my laptop with me just in case something goes wrong.

Participant 17:

> And so I think that's something that I've always struggled with a little bit in terms of, who gets top priority? Just because the technology can give you real time messages from people, you've got to push back at some point and say, "Well, I can't respond to everything in real time, particularly if I'm in the middle of a meeting or doing something else." Because the context switching is probably the thing that causes the most stress. I think that's a... Yeah.

Physical Technostress Symptoms

This term refers to the stress induced by computer use felt by technophobia, confusion, fear, or anxiety. It is termed information overload, where technology becomes a negative source of stress as a recent employee health concern affecting productivity (Variya & Patel, 2020). The rapid pace of technological change further aggravates work overload for knowledge workers' as it imposes constant learning and skill acquisition, simultaneously triggering further role ambiguity and job insecurity (Horned & Forsman, 2019). Participants provide examples of technostress symptoms they have experienced due to being an ICT knowledge worker constantly connected to technology.

Participant 1:

> Nausea, cold sweats, clammy hands, increased heart rate. I would get the symptoms of irritable bowel syndrome, so severe upset stomach, diarrhea, things, especially around being on call, but even in particularly stressful work environments, if a system was down at the hospital. There were a couple of times where I was sick in the restroom and was having to run back and forth from my desk because the stress level was so high. And then I felt like I was getting behind on dealing with all of the issues that were being presented to the help desk.

Participant 2:

> So back to the original question of symptoms, so in the beginning, I had some weight loss. I stopped exercising. I didn't sleep well. I was nervous a lot. And then also suffered anxiety, ultimately situational depression, and a lot of regret. And as time moved on, it morphed into weight gain because, of course, after a while of not exercising, not eating well, eating a lot of processed or pre-made foods. Some blood pressure issues. Some mental health issues. Started seeing a therapist. Resentment, anger, all of the above, I experienced over that timeframe.

Participant 10:

> Yeah, another part of it is just the fact of it's not only just efficiencies, it's the fact of additional workload that will be coming, because I've found myself and other coworkers that have gone through anything working while sick or through techno stress, that mistakes are made, which in turn causes even more work to be done.

Participant 16:

> Sometimes I could have tired eyes, sometimes headaches, weakness, wanting to lay down, but I can't lay down because I have work to do, so I just have to push through. So, it's just general tiredness from having to sit all the time, and also again, poor circulation, because I'm always sitting, sometimes I could get swollen feet. Just, it's all part of the fatigue.

Psychological Technostress Symptoms

This term refers to the psychological technostress symptoms that are consequences of presenteeism. Cooper and Lu (2016) addressed the psychological factors determining a worker's choice regarding presenteeism or absenteeism. They found that both a person's cognitive processes and social situations determine their behavior. Participants expressed their state of mind when experiencing technostress symptoms and how it affects their behavior.

Participant 2:

> And then what also happens is I knew I needed to leave. I was too afraid to just quit and just rid myself of the entire organization. So, then I started looking for a job and it didn't last very long because they just bombarded you with work, bombarded me with work. And with the way that management was, it started eroding self-confidence and self-worth. So, then I just stopped looking because I had no confidence to even interview with people because it's almost like as bad as they treated you, you still felt like you were lucky to have a job. That was the gas-lighting type behavior that was prolific throughout management.

Participant 9:

> Yeah. I think I would add that the stressors as they relate to... The type of work that I do and, I think, most of the people that are kind of in my industry is very... And I know this sounds a little ridiculous, but it's a little brain heavy, right? I mean, it's not like you can just... You don't count and throw it on the shelf, right? I mean, it's not an inventory. It is very much brain-heavy work. And I think one of the things that is part and parcel of the challenges and the stress that are related to this is it is very difficult for people to decompress.

Participant 15:

> Whereas probably, in the 10 years ago example, I probably pushed people to do that same thing. I was probably on the employer side, pushing people to push past other competing priorities, family, serious family issues, whatever, but we still have to get the project done. This time, I was on the employee side of it. So, I guess I gained greater transparency to how unhealthy and dysfunctional that is.

Work-Related Consequences of Presenteeism.

This term refers to the consequences of going to work while feeling ill. The consequences of presenteeism can have positive factors, such as the perception that one is highly productive and able to work despite sickness, thus increasing the chances of being promoted. It can also have negative factors affecting the organization through workplace accidents, serious mistakes, contamination of consumer goods, and spreading viruses (Lohaus & Habermann, 2019).

Participant 8:

> If a person stays home then we would have that much more work to do without all hands to do them. We tend to have longer days. On the other hand, if a person comes in sick, most of the time they are not focused and make mistakes. Those mistakes cost people time and it could lead to bigger issues further down the line. I would prefer if the person stayed home. More work is okay, but double work gets frustrating fast.

Participant 10:

> Yeah, another part of it is just the fact of it's not only just efficiencies, it's the fact of additional workload that will be coming, because I've found myself and other coworkers that have gone through anything working while sick or through techno stress, that mistakes are made, which in turn causes even more work to be done.

Work-Life Balance Consequences of Presenteeism

This term refers to the consequential balance between work time and home life when attending work while feeling ill, mainly attributable to ICT knowledge workers working from home. Miraglia and Johns (2016) suggest that going to work while ill represents a "sustainable" choice for quality of life when faced with chronic illness or being an example of citizenship behavior. Participants report that they have a hard time separating work and home life, particularly when working from home while being ill.

Participant 9:

> The first is remote workers, in my estimation, typically work more, and it is because it is very difficult to disengage when your office is in your home. And it's

very easy to, "Oh, let me pop in, look at my phone. Let me check my messages." So, in that regard, I think we typically work more hours, which tends to lead to more stress than our counterparts that get to leave their office or their campus and disengage. That's been my experience at least. The other part is when you are dealing with varied schedules, my students in particular, who I kind of think is my customers, they don't work on my schedule. So, they're working adults. And I may grade and I may be active in the course rooms looking and seeing what they do asynchronously, but there are certainly times where we have to meet synchronously, and so I have to kind of adjust my schedule to meet them. And that does add to the stress because I may get an email from a student who is in need of feedback at 10:00 at night, and I have to engage and go quickly respond to them in an email. So, there's a lot to that, and it's not a simple and cut-and-dry answer.

Participant 15:

In the past? I would have thought, "Wow, are they really sick? Or are they just not wanting to work?" I was very much that, unless you're hospitalized, and I've worked on my laptop in a hospital room many, many times. In spite of doctor's orders, I was pushing through. Then last year when my husband said to me in January, when they hospitalized me, I think by June, "Do you want me to bring your laptop into the hospital?" It was the first time in 25 years that I thought, "Wow, I'm not going to do that." And did I ever expect people to do that? And why?

Participant 16:

> Well, the fatigue of always being in front of a computer, I now have to wear glasses because of constant staring at a computer, straining my eyes, getting tired. But that doesn't stop me because I have deadlines I have to push through, even though I am tired. And then not spending a lot of quality time with my family, my children who are also studying online right now. So, I tend to focus more on my work and then check in on them from time to time.

Lower Work Productivity

This term refers to how showing up for work while being ill affects work productivity. Johns (2010) contends that when a strict absenteeism policy causes employees to attend work ill, the organization will experience unrecognized dimensional productivity loss. Participants report experiencing technostress or illnesses to such a degree that productivity suffers.

Participant 3:

> It can make you 90% inefficient. You can have a simple task and be so overloaded that you're going to dig into it so much more for just some stupid simple fix. You can spend a whole day on something that should have taken you five minutes.

Participant 4:

> Oh, extremely. Yeah, you can work hard, but the higher the... It's inversely proportional, your productivity is inversely proportional to your stress. If you enjoy it and are having fun and like the challenge, then you can be extremely

productive. However, if you're being ridden and micromanaged, and under unreasonable, unrealistic deadlines, and unrealistic productivity, then the stress can be very high. And then it becomes a self-fulfilling prophecy.

Participant 13:

I would say it interferes with work productivity because it disallows you to be as innovative and creative as you would be. I'm one who is very much attuned to various personalities. I'm very much one who likes more of a hands-on, and a lifestyle sort of teaching.

Participant 14:

I would definitely say that there's days at work that are so stressful, more kind of like overbearing that I get like an hour or two of actual real work done in a day. Although I don't know if that's really techno, I would say that sometimes there's seemingly too much to do, or there's always something that needs fixing or improving in IT. And sometimes it's overwhelming to decide what to work on or to concentrate on. So, I might say I need to work on a project that'll take me two hours to do. And between chat messages, phone calls, things breaking, it may take me six hours to do two hours' worth of work.

Increased Anxiety and Depression Leading to Lower Attention-Span

This term refers to how work stress leads to anxiety and depression but is not recognized as legitimate reasons to be absent (Johns, 2010). Additionally, studies found that presenteeism's adverse effects on employee health led to an increased risk for depression among initially non-depressed participants (Lohaus & Habermann, 2019).

Long-term presenteeism practices run the risk for future risk-averse health events such as cardiovascular disease and mental health problems such as anxiety and depression (Miraglia & Kinman, 2017). Participants reported how they are mentally affected by either technostress or stress in general attributable to being ICT knowledge workers.

Participant 12:

> If you're getting pulled in multiple directions by multiple people, and you're home alone, not getting direct help, it can definitely affect your productivity, whether it be being stretched too thin or just ... and it makes it tougher to organize, and organize your thoughts, and execute.

Participant 15:

> Because of COVID fatigue, and because of the number of employees in the country that have been forced to be remote, has been eye-opening to me. And listening to them and following folks on Twitter, and hearing the fatigue everyone has that your mental health, your stress level, your physical health all are compounded when we are all forced to have a lot of screen time.

Long-Term IT Specialists Cope Better With Chronic Screen Time

This term refers to how long-term IT specialists have developed the means to cope better with chronic screen time. Imbalances in work/life, together with poor coping skills, causes knowledge workers to face health issues leading to presenteeism (Ee et al., 2017). Long-term IT employees perceive work and family time differently as they progress in their careers and have found coping mechanisms over the years that combat the stress (Chen et al., 2018). This result supports Lazarus and Folkman's (1984)

transactional model of stress and coping that suggested age differences affect coping strategies due to changes in what people cope with as they age (Nieto et al., 2020). Participants reported how they had developed coping mechanisms to combat chronic screen time stress over their long-term careers.

Participant 6:

> The business which I'm in is extremely competitive, and to be at the level we are at, we are constantly in competition with one another. To stay home would show weakness, whether that's right or wrong, it's a debatable conversation. But the fact is that people would "push through" so as not to seem like they're not part of a team.

Participant 7:

"It doesn't really. I'm an IT person, I've been with the technology since, information technology, its beginning. So really, to me, it just increases my productivity with everything new that's comes out."

Participant 15:

> Now I see that I likely do my best work refreshed and not just driving myself to a 1:00 AM or all-nighter to get a project done. That that is not your best work, and never will be. But I would have defended that to anyone challenging that 10 years ago.

Compromised Work-Life Balance.

This term refers to the consequences affecting work productivity experienced by presenteeism. Organizations have to determine what degree of connectedness is

appropriate concerning employees' work roles and what boundaries should be established to prevent adverse health-related outcomes affecting work productivity (Ciolfi & Lockley, 2018). Participants share how their work-life balance was affected as a consequence of presenteeism.

Participant 2**:**

> It was only words. There was no such thing as that. And to give you an example, I had gotten remarried in 2015. And when I was getting remarried, my boss at the time said to me, "I don't know how much time you're planning on taking off, but don't think there's anybody here that can pick up your workload. So, I would think twice about how much time you're taking off." So, I took off three days and nobody picked up anything in those three days that I was out.

Participant 6:

> We have a large amount of people from India, and people from China, and now, in the workforce in the United States, and they have radically different views as to what hard work is. And so, you have a spectrum of, "I want a strong work balance, work, home-life balance," on the one side, and then you have this, "I'm going to work until I die." There's a Japanese word for that, which escapes me at the moment, on the other side. And then, the middle is the actual productivity that gets everything done, and makes it so people can have a life. And so, finding that is a... That's a moving target.

Participant 9:

You really could, but they don't, right? And I think it's just a factor of the industry that I'm involved in. I was a CIO for many years. There were lots of times I worked from home, and I experienced the same thing with my workers who were remote for help desk and my folks that would travel, that basically it's very difficult to disengage when you are actively involved in a task, and you feel like if I don't finish it now, then it doesn't get done, which may or may not be true. Generally, I think it is not true. And it's a perception that actually causes greater damage psychologically and physically than it actually produces efficient and proficient work.

Participant 14:

Again, I think the biggest part of IT related, well at least for me, stress would be just feeling like I can't unplug because I just need to be available. We're a 24/7 support service, so if a server breaks at midnight we need to start working on it immediately to try and get it back up. So, I think that's probably the most stressful technology related part of the job.

Participant 16:

I've had to one time, I had no choice because it involved surgery and being hospitalized, and there's no way I could have been there to do the job. So, it pushed back the deadline for that particular delivery. And I even occasionally attempted to do some work at the hospital against doctors' recommendation. Again, of course I attempted, but it didn't work, because I mean, my body rejected that. So, I just couldn't. I just gave up at that point, that I couldn't really

> do it. But I did try, and that's because I felt guilty that I was maybe costing the company huge sums of money, and the project was delayed, even though it wasn't my fault, because I was feeling unwell. But I still felt guilty.

Train Management on Technostress Prevention

This term refers to how management needs to support technostress prevention efforts through organizational resources (Cote et al., 2020). A study by Brunner et al. (2019) explored the question of who gains the most from improving managerial support. Since stress-related productivity losses represent a substantial economic burden, it is essential to mitigate workplace stressors to lessen productivity losses when there are continuing structural changes in the work environment. Participants suggest that the presence of managerial support can go a long way to prevent adverse health-related occurrences stemming from work-related stressors.

Participant 2:

> Earlier on in my career when I worked for other organizations, nobody behaved like that. I mean, if you behave that way, they would have been in trouble. I mean, I remember when I worked for my initial employer which had three different names over a 12-year period because of spin offs and stuff like that that I heard. But our management at the time, regardless of level, their bonus was based on their upwards feedback from their direct reports. So, they were gold on making sure that they took care of their people, and they treated their people accordingly.

Participant 6:

> Well, absolutely. I would say that any manager needs to be able to work best with their people to allow them to be their best. And workplace cultures are living things, and they're not meant to be wrote manuals that you follow, rather than you change to meet your organization. And so, as we become a more multi-generational and multi-cultural workforce in ICT, we have to acknowledge that, where we're dealing with people who have different expectations of what workload is, in terms of generationally, as well as culturally.

Participant 12:

> I guess the only thing, I'm not sure if this is relevant or not, but at my job, I get basically, I get sick days and then I get time off, and because I rarely use sick days, they kind of go unused. But sometimes, if I just wanted to take off for a personal day, I don't think that would be considered a sick day, but they wouldn't ... So, I just always have been of the opinion that jobs should allow time off PTO [paid time off] in general, versus a portion of it being sick days, a portion of it being PTO for vacations or time off.

Participant 15:

> Again, 10 or more years ago, within the earlier part of that 25-year career, I would have completely said the opposite, that it's flexible, convenient, what an advantage. We should all be more productive when we're allowed to work remote. Thus, we can fit that eight-hour workday into whatever hours in the 24 we

> want to. Now I see, and I think that there's certainly more research needed in that area, of the longer-term impact of technostress.

Companies Promote a Healthy and Safe Work Culture

This term refers to how management can create a sustainable workplace environment to combat presenteeism and provide organizational resources to manage technostressors (Zhao et al., 2020). Effective management of presenteeism reduces employees' adverse health-related outcomes, positively increasing an organization's success. Participants suggest that management can start improving the workplace environment just by treating people with humanity.

Participant 2:

> I think they just need to really go back to the basics. And if I just may add, I don't know if from the beginning part of my work life, so like 1989, 1990, and then in the 20 teens, I have to believe there was a bit of a cultural shift in all companies in the information technology and telecommunications space in behavior in the way that they treated employees. I don't think it's just all on one company. I think it became a very widespread type of disease. But I believe they just have to go back to the basics and remember, a couple of really key basic items. One, treat people with humanity, right? I mean, treat people like you want to be treated. I mean, it's not that hard. And two, remember that employees are an asset. That's who the customers deal with. Without having a positive workforce, and people that act as agents for you, for the company to its customers, suppliers, vendors, partners, you don't have a revenue stream.

Participant 14:

> Well, I mean, so if we were to do it in an ideal way, we would have maybe three different shifts covering eight-hour periods throughout the day so that there's always someone up and available to handle any kind of issues. But it would be really expensive to do that so it's not reasonable from a business standpoint to do that. But the other side of the coin as well as it's a lot more stressful.

Participant 16:

> Yeah. I think employers should really take this into account, particularly remote teams, having been very tight, for example, with projects. If a project is supposed to take five people to complete under normal circumstances, I would say they should add one more as a buffer, just to make sure they try and minimize the stress on the staff should one person drop off, they still have that extra one person who can fill in for the person who drops off. And if the stress is minimized, then you can have better productivity and also the stress on the other staff will be minimized as well. And that could lead to higher outcomes, better productivity, and general wellbeing, mental stress particularly, because the work we do is all mental, most times mathematics involved, you have to think. And if you make one mistake, that can actually ruin the entire project.

Participant 17:

> There's an expectation it seems that whether you're sick or not you're going to check in with your boss every few hours or every day. And my attitude is I'm sick and I've told my boss that I'm sick. There should be no more questions until I'm

> well again, right? And I understand that a boss needs at least to know what they're going to do with certain things that are pending or if you've got things that they're depending on from you, they need to know where that is. But if you truly are sick, there's a good argument to say, "I might not be able to address that right now." And I think that expectation has really changed.

Participant 17:

> It's changed from, if you're out of the office, you're out of the office and nobody's going to question you about you're out of the office when you're sick. Now it may be that the sickness is absolutely valid, or it may be that you just can't be bothered going to work that day. And it honestly shouldn't matter. And it didn't used to when we were all in an office physically present. If somebody is out that day, you just get on with it. But now there's this sense that, "Well, you're at home anyway, so you can get on your phone or your laptop or whatever, just let us know." And I think that's a bit of a violation, to be honest.

The Millennials/Gen X Effect on Presenteeism

This term refers to the changing generational views in a new economy regarding presenteeism. As the workforce transitions from the Industrial Age to the Information Age, knowledge workers require a decentralized management style in an unstructured work environment (Iazzolino & Laise, 2018). Participants recount how new generations are changing the workforce's way of approaching knowledge work and presenteeism.

Participant 5:

"The whole human capital model is shifting from long-time employees to gig workers. What I've seen, which is unfortunate, is that you're seeing a decrease in loyalty on both sides because of the gig worker status."

Participant 6:

> Yes, but that's changing. We're in the midst of a generational shift. And the younger generation that is coming into the workforce has different viewpoints of what work is, and this isn't a millennials or slacker conversation, but rather just a completely different definition of what work is. And the managers and senior people that they interact with of late stage... Or early millennials. So, born in the 1990s, and Generation X, have different viewpoints of what work is. And so, where a person of an older generation would be more likely to just push through, "I'm not going to let this get me down," a person of a younger generation would take the attitude of, "Well, that's ridiculous. I'm not going to do that. Why would I do that?" And that culture is changing the workplace right before our very eyes.

Personal Decision and Commitment to Healthy Work-Life Balance

This term refers to employees' personal decisions regarding maintaining a healthy work-life balance. The *always-on* mentality blurs the boundaries between work and home life, leading to technostress and presenteeism (Yin & Lu, 2015). Contract work or gig work often causes knowledge workers to work from home, which accentuates blurred boundaries between work and home life. However, how knowledge workers approach their work/life balance may affect their response to technostress. Participants share how

they choose to make conscious choices for a healthier lifestyle despite facing workplace stressors.

Participant 2:

> Towards the ends, I was able to get myself back into the gym to physically exercise. And I also made it a point to stop eating out and actually make time to cook for myself or make myself meals to eat healthy. And also, from the help that I received from a therapist of the beginning of disassociating myself and not being afraid. And that took a lot longer than I ever thought that it would. And it was quite shocking even for me still to this day to admit. Because up until that point, I was a fairly fearless person and had no problems sticking up for myself, or not accepting poor behavior, or threats, or bullying, or all of the above. And it took several years for me to break out of it. But it was a process. And so, during that process, I started exercising again. Would eat better again. And my productivity was better because... The problem is when you can't stop your minds from spinning, at least for me, and would just feel so much pressure. My quality of work and the amount of work that I was able to get through was lower and of less quality than when I felt good and I had more self-confidence.

Participant 9:

> Obviously, that's why I do... That's why I am involved in CrossFit. It's why I cycle. It's why I do weightlifting in the evenings. I try to go to the gym basically twice a day, simply so that I can decompress and that my body is not facing... It's not suffering the same kinds of techno-related stress, right, that information

worker stress from always being engaged. So, it's a disengagement mechanism, but there are also corollaries that are related to health. I mean, I can't tell you how many of my peers have really poor health that I can ascertain just simply because I'm interacting with them through Zoom or otherwise."

Summary

In this chapter, I presented the result of the thematic analysis of 17 participants, followed by the synthesis of the results to answer this study's central research question: How do knowledge workers describe their perceptions of technostress's interface ICT-induced presenteeism on their work productivity? Six conceptual categories with 24 themes emerged from the findings of this single case study with embedded units after the study was grounded in the conceptual model of Lohaus and Habermann's (2019) comprehensive presenteeism model, grounded in Johns's (2010) framework model of presenteeism. The thematic analysis provided rich data on the experiences of participants. The six codes that emerged are as follows: (a) working conditions of today's knowledge worker, (b) antecedent factors leading to presenteeism, (c) decision-making factors leading to presenteeism, (d) consequences of presenteeism, (e) presenteeism consequences on work productivity, and (f) knowledge workers' views on technostress prevention for better work productivity.

The 24 themes that emerged from the data analysis process include the following: (a) distribution of daily work-related screen time, (b) work setting conditions, (c) employer's work productivity expectations, (d) driven by performance goals, (e) fear of employer disapproval and job loss, (f) personality traits, (g) job demands and work

culture, (h) health locus of control, (i) job-related factors, (j) personal-related factors, (k) health-related factors, (l) psychological factors leading to presenteeism, (m) physical technostress symptoms, (n) psychological technostress symptoms, (o) work-related consequences of presenteeism, (p) work-life balance consequences of presenteeism, (q) lowered work productivity, (r) increased anxiety and depression leading to lower attention-span, (s) long-term IT specialists cope better with chronic screen time, (t) compromised work-life balance, (u) train management on technostress prevention, (v) companies promote a healthy and safe work culture, (w) the Millennial/Gen X effect on presenteeism, and (x) personal decision and commitment to healthy work-life balance.

The study's trustworthiness was evidenced using seminal methodology scholars' methods (Stake, 2013; Yin, 2017). The single case study results were comprehensively analyzed and interpreted within the context of Lohaus and Habermann's (2019) and Johns' (2010) conceptual framework to describe how ICT knowledge workers describe their perceptions on the interface of technostress and ICT-induced presenteeism on their work productivity. In Chapter 5 I will present the findings' interpretations, describe the study's limitations, and recommendations for further research. Finally, I will discuss the implications of the findings to social change, theory, practice and provide a conclusion.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this qualitative single case study with embedded units was to explore the perceptions of knowledge workers of the interface of technostress and ICT-induced presenteeism on their work productivity. To address the study's research problem and purpose, I used qualitative data collected from multiple sources of evidence, including interviews, field notes, and archival data (Merriam & Tisdell, 2015). Data sources were triangulated to establish the data analysis's trustworthiness (Guion et al., 2011; Merriam & Tisdell, 2015). I gathered data that reflected the participants' perceptions on managerial competencies needed to implement strategic change by using qualitative research methodologies. Additionally, the interviews allowed for further elaboration of the participants' personal experiences and for unexpected data to emerge (Ferguson & Jacob, 2012).

Using a qualitative single case study with embedded units approach allowed me to give voice to knowledge workers on the specific nature of presenteeism and its interface with work productivity within the ICT field. This study was framed by the conceptual framework comprised of Lohaus and Habermann's (2019) comprehensive presenteeism model, grounded in Johns's (2010) framework model of presenteeism, that included concerning factors recommended for future research through experience sampling to explore the presenteeism tradeoff between health and motivation. Future research was required to establish which kinds of theoretical approaches to the decision-making process were useful for extending theory (Lohaus & Habermann, 2019). The use of a single case study with embedded units design was beneficial in this study because it gave

me the flexibility required to iterate and extend a theoretical model (Halkias & Neubert, 2020; Stake, 2006). New knowledge emerges from recognizing patterns in the collected data and the logical arguments that underpin them (Eisenhardt & Graebner, 2007).

Thematic analysis and data from face-to-face interviews with 17 participants revealed the following 24 themes: (a) distribution of daily work-related screen time, (b) work setting conditions, (c) employer's work productivity expectations, (d) driven by performance goals, (e) fear of employer disapproval and job loss, (f) personality traits, (g) job demands and work culture, (h) health locus of control, (i) job-related factors, (j) personal-related factors, (k) health-related factors, (l) psychological factors leading to presenteeism, (m) physical technostress symptoms, (n) psychological technostress symptoms, (o) work-related consequences of presenteeism, (p) work-life balance consequences of presenteeism, (q) lowered work productivity, (r) increased anxiety and depression leading to lower attention-span, (s) long-term IT specialists cope better with chronic screen time, (t) compromised work-life balance, (u) train management on technostress prevention, (v) companies promote a healthy and safe work culture, (w) the millennial/Generation X effect on presenteeism, and (x) personal decision and commitment to healthy work-life balance.

Interpretation of Findings

The findings of this single case study with embedded units confirmed or extended current knowledge in the discipline, with each case presenting examples of issues presented in the conceptual framework and discussed in the literature review in Chapter 2. In this section, I present and review the study's findings in the context of the six

coding categories that emerged from the data analysis: (a) working conditions of today's knowledge worker, (b) antecedent factors leading to presenteeism, (c) decision-making factors leading to presenteeism, (d) consequences of presenteeism, (e) presenteeism consequences on work productivity, and (f) knowledge workers' views on technostress prevention for better work productivity. I compare each of these six categories with relevant concepts from the conceptual framework and the extant literature presented in Chapter 2.

I also provide evidence from the 17 semistructured interviews to support how the study's findings confirm, disconfirm, or extend existing knowledge. This process of analyzing and presenting data evidence for theory extension in a single case study demonstrates the complexity of responding to the inductive and deductive evaluation process of qualitative data (Halkias & Neubert, 2020). Extension studies, such as this single case study with embedded units, provide replication evidence and support the extension of prior research results by offering valuable insights and new theoretical directions (Bonett, 2012).

Findings and Coding Categories

Working Conditions of Today's Knowledge Worker

Flexible working conditions, such as those experienced by ICT knowledge workers, place increased demands on employees requiring self-regulation with the sole responsibility of goal attainment. These flexible working conditions may lead to a self-endangering strategy of working while ill (i.e., presenteeism), meeting self-imposed goals. My study's findings confirm that today's knowledge workers' working conditions

are influenced by the distribution of daily work-related screen time, work setting conditions, and employer's work productivity expectations.

Study participants report that the expectations placed on them by management to perform, without appropriate resources or support, leads to higher work stressors leading to presenteeism. This study aligned with Lohaus and Habermann's (2019) conceptual framework model categorizing contextual factors into three groups (i.e., person-related, work-related, and organizational), and subdividing factors into more distal (e.g., environment, culture, economic, and societal) and proximal factors relating to work and the organization (i.e., kind of work, work profession, working conditions). The current study results extend knowledge from Brunner et al.'s (2019) study questioning who gains the most from improving working conditions. The current study results also suggest that job stressors have a more substantial effect on health-related productivity losses for employees lacking personal and job resources and that employees with high levels of job stressors and low personal resources will profit the most from an increase in job resources.

Antecedent Factors Leading to Presenteeism

Whether employees feel or do not feel supported by leadership may be a determinant of their health and productivity by influencing their reaction to workplace stressors. My study's findings confirm that performance goals drive antecedent factors leading to presenteeism, fear of employer disapproval and job loss, personality traits, job demands and work culture, and health locus of control. Study participants described how their dedication and drive to please both the client and the employer through high-

performance expectations lead to presenteeism. These findings align with those of Lohaus and Habermann (2019), who stated that although there is little research on presenteeism's antecedents, there is increasing evidence that managerial support obtained through either leadership behavior, social support, or job design is a leading factor. The results of the current study also extend the knowledge on the topic, suggesting that perceived supportive leadership was associated with less self-reported absenteeism and presenteeism and lower estimated costs (Schmid et al., 2017).

Decision-Making Factors Leading to Presenteeism

Deciding whether to attend work while ill (i.e., presenteeism) or to stay home (i.e., absenteeism) comprises contextual factors. The study results confirm the decision leading to presenteeism is based on job-related, personal-related, health-related, and psychological factors. Study participants described how their decisions are affected by the degree of work and are determined by their situation. This finding aligns with Johns's (2010) framework in which health and illness are on two different ends of a continuum, and in less severe health events, the decision to attend work or not depends on the subjective evaluation of where on the continuum employees see themselves (Lohaus & Habermann, 2019). The current study results also extend the knowledge from Miraglia and Kinman's (2017) study in which they found there are many factors involved in the decision-making process, stemming from determinates, such as financial considerations, level of physical or emotional impairment, low job control, or the degree of support from either coworkers or supervisors.

Consequences of Presenteeism

The consequences of presenteeism affect organizations when employees show up to work while being ill. The current study results confirm that the consequences of presenteeism can result from physical technostress symptoms, psychological technostress symptoms, work-related consequences of presenteeism, and work-life balance consequences of presenteeism. Study participants recounted how the nature of their work as an ICT knowledge worker has them tied to their computer for long periods; does not provide for downtime or recovery from technostress; and exacerbates work stressors experienced, such as brain fatigue, anxiety, or depression.

The current study results align with those of Lohaus and Habermann (2019) that indicated enhanced technologies have allowed knowledge workers to stay in constant connectivity and share information while retaining always-on accessibility. The current study results extend knowledge gained from Variya and Patel (2020) who found presenteeism promotes an always-on work culture because it increases demands on workers' availability and responsiveness. The current study results also extend the findings of Kaushal (2019) that showed that the presenteeism phenomenon has led to intrusion into knowledge workers' personal lives, possibly creating chronic stress from work overload and work ambiguity for IT professionals.

Presenteeism Consequences on Work Productivity

The concept of presenteeism refers to going to work while ill and can affect work productivity. Current study results confirm that presenteeism causes lower work productivity, increased anxiety and depression leading to lower attention span, long-term

IT specialists to cope better with chronic screen time, and compromised work-life balance. Study participants described how going to work while ill causes them to lack concentration and increase their stress levels, resulting in anxiety and depression as well as how long-term workers have learned to manage work stressors leading to presenteeism while still performing their senior leadership duties. The study results align with Johns's (2010) prescription for presenteeism, in which the author detailed the critical variables of presenteeism and absenteeism theory about antecedents and consequences (Fiorini et al., 2018). The current study results extend the knowledge that supported work environments may reduce the degree of technostress resulting from involuntary presenteeism and provide a work atmosphere that enhances productivity while reducing the level of health-related disorders (Karanika-Murray & Biron, 2020; Liu & Lu, 2020).

Knowledge Workers' Views on Technostress Prevention for Better Work Productivity

Based on their lived experiences, knowledge workers provided their views for the prevention of technostress that addresses work productivity issues. The current study results confirm how knowledge workers' views on technostress prevention for better work productivity can be achieved by having management trained on technostress prevention, companies promoting a healthy and safe work culture, management being aware of the millennial/Generation X effect on presenteeism, and knowledge workers making a personal decision and commitment to having a healthy work-life balance.

Study participants expressed how management and coworker support can directly affect the management of presenteeism and how knowledge workers can control presenteeism by establishing a healthy work/life balance. These findings align with those

of Lohaus and Haberman's (2019) related to understanding how and why workers choose between absenteeism or presenteeism and how management can prevent adverse employee outcomes and maintain work productivity. The current study results extend the knowledge gained from Zhou et al.'s (2016) study that indicated a determinant affecting productivity that has provided significant results related to presenteeism is the degree of support employees receive at work and, more specifically, that support from supervisors or coworkers affects how workers perceive their ability to take time off work when feeling ill.

Limitations of the Study

When conducting research, scholars need to be well versed in the limitations of the selected study design, data collection, and analysis methodology to ensure valid and reliable results (Tracy, 2019). The researcher's method and personal biases related to the circumstances and the environment are inherent limitations of qualitative research. In this study, specific factors may have also posed limitations. I purposed selected study participants and also used the snowball sampling method. The small sample size in this study may not represent the larger population of ICT knowledge workers in the United States. This limitation was mitigated by selecting participants who fit the inclusion criteria and scope of the study. I intended to rely on snowball sampling and asked a few initial participants who already met the study's criteria to refer to others who also potentially met the criteria (Merriam & Tisdell, 2015). Only one participant referred another participant for the study. This necessitated returning to my initial participant

recruiting strategy to obtain the necessary number of participants required for data saturation.

Additionally, I used the interview method approved by Walden University's IRB, which enabled the interview interactions to avoid contextual information and helped me avoid personal reflexivity and maintain a highly unbiased atmosphere (Kraus, 2017). The audio-only communication in interviews was found to have higher empathic accuracy rates relative to vision-only and multisense communication while engaging in interactions and perceiving emotions in strangers' recorded interactions (Kraus, 2019). I conducted interviews for the current study using Zoom's audio-only format, which helped negate any form of bias that may have occurred had the interviews been face-to-face or in a video format on Zoom. Methodological triangulation and different data collection methods were also used to reduce possible bias (Anney, 2014).

Recommendations

This study is the first of its kind conducted on knowledge workers' daily experiences with technostress and presenteeism. I took notes during data collection and maintained close communication with participants to answer any additional questions they may have had. Data were documented at every step to provide more productive and meaningful recommendations. The nature of today's knowledge workers in the ICT field has resulted in a workplace culture of constant connectivity. The always-on accessibility of ICT knowledge workers has resulted in information overload where technology has become a negative source of stress and an employee health concern termed technostress (Variya & Patel, 2020).

Conceptual models and frameworks developed in the presenteeism literature do not specify relationships among individual and organizational constructs. This literature gap limits knowledge and a deeper understanding of how these factors merge to influence successful change initiatives and strengthen the capacity for change in the ICT knowledge worker field (Luoma et al., 2020; Ruhle et al., 2020**)**. Given that the study is now complete, the question remains of how managers may the information acquired to support knowledge workers coping with technostress and ICT-induced presenteeism. Effective management of presenteeism may reduce risks to human resource management, positively impact an organization's productivity, and achieve a competitive advantage (Liu and Lu, 2020).

Recommendations for Managerial Support for the ICT Knowledge Worker

Through multiple interviews from the study, it was clear that management was unaware of how technostress affected knowledge workers' health and productivity. In several situations, management did not care what it took to get the job done; the job just had to be completed no matter what the cost was to the employee. A study by Gerich (2019) found that presenteeism was used as a coping behavior in conditions of high job control. In two interviews from the study, participants admitted that while they were in the hospital for serious conditions, they still felt obligated and compelled to sneak in their laptop (against medical advice) to meet their projects' timeline demands. Many participants reported having to report to work while battling severe illnesses such as Covid-19 or H1N1 or even the common flu. It was even reported where an interviewee

was questioned by management about taking time off for his honeymoon, and it was made clear his work would still be there when he returned with the same deadlines.

Manager's role in mitigating presenteeism is to provide a safe and productive work environment (Liu & Lu, 2020). Supported work environments may reduce the degree of technostress resulting from involuntary presenteeism and provide a work atmosphere that enhances productivity while reducing the level of health-related disorders (Karanika-Murray & Biron, 2020; Liu & Lu, 2020). Successful presenteeism adaption processes depend on management's workplace design of internal capacities and flexible work resources (Karanika-Murray & Biron, 2020). By providing sustainable support to aid employees with technostress, management may effectively manage presenteeism performance under impaired health. With presenteeism a costlier problem than absenteeism, it is crucial for management to determine why knowledge workers choose presenteeism (Evans-Lacko & Knapp, 2016).

As suggested in the interviews, management may provide support by facilitating a work culture that treats employees with respect and offers them the freedom to perform their assignments without micromanagement. Numerous studies indicate that supervisor support has been found to mediate the effects of presenteeism and workplace stressors affecting productivity (Brunner et al., 2019; Yang et al., 2019; Zhang et al., 2020; Zhou et al., 2016). Additionally, participants suggested that management needs to transition their management style from one of control to one that adapts to the unstructured work environment best suitable for ICT knowledge workers. This suggests the best suitable management style for their field would be an esoteric style that supports the worker but

allows them the freedom to create and perform. A different management style is required as the very nature of their work precludes traditional means of management (Nelson et al., 2017; Varghese & Barber, 2017).

Recommendations for Future Research

Reoccurring themes that resulted from the participant interviews suggested ICT knowledge workers have an internal drive to perform that was almost to the point of self-deprecation and have a desire to separate and maintain work/family life. The drive that propels ICT knowledge workers to achieve appears to come either from an internal work ethic or a personal desire to take a project through to completion without management interference. Further research could provide additional case study research to validate the results of this study and further explore the applicability of specific personality types or styles apparent in the ICT knowledge worker's drive to achieve.

It was discovered in the interviews that with the participants' internal drive to perform, they also felt that job design was a factor in their productivity. Turnover is high in the ICT field due to a lack of job security and stability, but it is also an indicator of discontent with management (Zhang et al., 2020). According to a study by Lee et al. (2017), organizational stability can be secured in a rapidly changing environment by implementing a decentralized and flexible work environment. Knowledge-intensive work requires employees to decide the scope and method of tasks based on their capabilities and surroundings, making changes according to the situation. Participants acknowledged that even though they were rarely sick enough to stay home from work, they required autonomy and management support that allowed them to recover from their ailment to

return to work restored fully. Further research may shed light on the cost of knowledge worker turnover in such a highly competitive knowledge-intensive field.

Additionally, the participants I interviewed made it very clear that work/life balance was very important to them due to the nature of their field. Some admitted they had a tough time distinguishing from the blurred lines of work/home life, but others felt they had to draw a hard line to prevent chronic illnesses or family issues. There are accounts from the participants of managers still contacting them when they had called in sick to work. The constant connectivity never allowed for complete recovery from ailments due to the nature of the job design.

A study by Ee et al. (2017) revealed that individuals affected by work and family conflicts exhibit poor job behavior, inefficient work conduct, and experience physical and behavioral deterioration. Participants recount their struggles with physical and mental health issues as they constantly battled management for their personal time. The internal struggle led participants with poor coping skills to suffer from emotional exhaustion, among other ailments, which ultimately led to cases of presenteeism (Brivio et al., 2018). In an extreme case, an interview participant recounted how she was made to deny her right to religious freedom by working on the Sabbath even though it was written in her pre-employment contract, and she would not have to. She also was made to break state laws by being forced to attend work after being tested positive with Covid-19, knowing her coworkers had a health-impaired family member at home who could be gravely affected if they should contract the virus. Such intrusion into employees' personal lives

requires further research into the legalities of what constitutes work versus personal life in such a remote profession (Marcum et al., 2018).

Implications

Implications for Positive Social Change

Positive social change can be experienced when management begins to understand how technostress and presenteeism adversely affect knowledge workers' health and productivity. Understanding can lead to providing support to knowledge workers by reducing workplace stressors that lead to presenteeism and creating policies and processes to develop a healthy, safe, and productive technology-infused work environment (Liu & Lu, 2020). In-depth interviews from ICT knowledge workers provided a glimpse into the daily lived experiences where technostress overload led to presenteeism due to a lack of personal coping skills. Through support, management may effectively manage presenteeism performance when knowledge workers are experiencing impaired health. Support provided with appropriate resources can positively affect employees' health and performance while preserving the quality of their working relationships as they adjust to their health impairments (Ruhle et al., 2020).

Implications for Policy

Organizational healthcare policies regarding a healthy workplace safety climate can go a long way in combating presenteeism. Improving safety motivation, complying with safe working behaviors, reducing injuries and accidents, and promoting safety performance can project a culture that values employees' health. According to a study by Nyberg (2008), leadership behavior affects employees' health risk choices. Breeding an

environment of health-focused policies can reduce presenteeism incidences and generally improve overall working conditions leading to a healthy and productive workforce.

Additionally, as policymakers work on catching up with advances in technology, federal legal statutes are being introduced to protect employees' rights to the sanctity of time by establishing a clear working definition of what is considered private time (Marcum et al., 2018). The technological intrusion of constant connectivity has encroached on work/life balance where knowledge workers cannot distinguish where their work day begins and ends, resulting in a lack of mental downtime to recover from workplace stressors. Employment laws in the United States need to catch up to the European Union where they are pushing for a *right to disconnect* law to protect those who are working from home by enabling those who work digitally to disconnect outside their working hours and establish minimum requirements for remote working, clarifying working conditions, hours and rest periods (European Parliament, 2021, January 21). This law would give Europeans the right for workers to switch off their digital communication devices used for work purposes, outside of their work schedules, and not face consequences for not replying to emails, phone calls, or text messages. Countries worldwide are also working on establishing their right to disconnect law within their borders to protect employees' rights in a world of being constantly connected.

Institutional Implications

As the rights of constantly connected employees are just now being addressed in a court of law, management is just being aware of how their outdated management practices are not a good fit with the worker's new style in a knowledge economy. This

study sheds light on the experiences of ICT knowledge workers living with technostress and presenteeism, where a gap in the literature suggests management has not fully understood what impacts knowledge workers' productivity. This study suggests a need for leaders in the ICT field to change their management style to address the issues knowledge workers face that prevent them from being productive or face an unhealthy workforce besieged with high turnover and reduced productivity.

Until this decade, absenteeism has been the focus of organizational performance objectives (George et al., 2017). Very little research was available to understand presenteeism or why employees chose to work while still feeling ill. It was not until Johns's (2010) theory on absenteeism that incorporated factors that led to employees' decisions, and Lohaus and Habermann's (2019) comprehensive presenteeism model that provided measurement of presenteeism that established a definitive theory regarding human efficiency in organizations (Liu & Lu, 2020). Absenteeism and presenteeism are closely related, yet presenteeism is costlier to organizations than absenteeism due to its long-term effects (Evans-Lacko & Knapp, 2016). Therefore management must understand the factors that go into an employee's decision to attend work ill or not and work to combat the workplace stressors that lead to an employee's poor health.

A lack of managerial support on the distribution of work, demands for screen time, limited or no downtime to recover from illness, and lack of resources to assist knowledge workers have negatively impacted employee health. A study found that autocratic leadership increased the total amount of sick days taken by men, and inspirational leadership was found to reduce the rate of sickness absence by both men and

women (Nyberg et al., 2008). Lohaus and Habermann (2019) found that managerial support either obtained through leadership behavior, social support, or job design was a leading factor for presenteeism. A study by Schmid et al. (2017) reported that perceived supportive leadership was associated with less self-reported absenteeism and presenteeism and lower costs involved (Ruhle et al., 2020). Not only is supportive leadership essential for a healthy workforce in a competitive field, but it also is essential for a productive workforce that leads to increased profits and organizational success.

Theoretical Implications

The theoretical implications of presenteeism require further investigation into the causes and effects of organizational performance and productivity (Lohaus & Habermann, 2019). This single case study with embedded units provided a holistic picture of the perceptions of knowledge workers on the interface of technostress and ICT-induced presenteeism on their work productivity. Yin (2017) noted that the strength of case study findings rests in their ability to be generalized to the theoretical propositions established from the literature. My study's findings revealed the perceptions of knowledge workers living with technostress and the resulting workplace stressors that lead to presenteeism, thereby providing opportunities for theoretical application of these findings to improve management's understanding of how technostress and ICT-induced presenteeism affects productivity. This study is significant to theory as it provides insight and new knowledge into the antecedents and consequences of presenteeism that have been poorly understood by management.

Recommendations for Practice

We live in a knowledge-intensive world that has transitioned from the Industrial Age to an Information Age due to expanding technology. Unfortunately, management practices have not progressed accordingly to meet the specific demands required for ICT knowledge workers' new field. Technology-infused workplaces experience intense pressure from well-documented work overload leading to a rise in health-related concerns for ICT knowledge workers (Weerasekara & Smedberg, 2019). Constant connectivity and an unstructured work environment have affected how knowledge workers approach their work, and intense demands from employers have led to presenteeism's intrusiveness (Lohaus & Habermann, 2019).

To address the adverse effects of presenteeism, management needs to support knowledge workers by understanding their employees' needs. Workers often have difficulty evaluating the fit between themselves and their work environment and have little or no training in coping with overload from workplace stressors (Karanika-Murray & Biron, 2020; Liu & Lu, 2020). Supportive work environments demonstrated either through leadership behavior, social support, or job design can reduce presenteeism occurrences in the workplace (Johns, 2010; Lohaus & Habermann, 2019).

Conclusions

The purpose of my single case study with embedded units was to understand the perceptions of knowledge workers on the interface of technostress and ICT-induced presenteeism on their work productivity. The primary tool used in the research was semistructured interviews with open-ended questions that allowed for the expansion of

shared experiences by the participants (Yin, 2017). The interviews provided perceptions of knowledge workers on their experiences in a technology-infused workplace, thus furthering the knowledge base why knowledge workers make specific choices that lead to presenteeism. The participants in this study provided a first-hand account of their work experiences and how they affected their productivity. The in-depth insight provided in the interviews provided themes that answered the central research question and aligned with the comprehensive presenteeism model developed by Lohaus and Habermann (2019), grounded in Johns's (2010) framework of presenteeism.

Further research should focus on how management can support knowledge workers in the ICT field either through leadership behavior, social support, or job design. There is an abundance of literature available on how supportive leadership leads to a healthy and productive workforce. Simply treating employees as human beings instead of focusing on profit is a good place to start. At the end of the study, the overwhelming message I received was that people over profit will always lead to productivity.

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Appendix A: Interview Protocol

Participant No: _____
Gender: _____
Age_____
Highest Academic Degree: _____
Years' experience as ICT knowledge worker _____
Remote, On-ground or hybrid work setting: _____

Preliminary Actions:

Interviewer to participants:

Thank you for accepting my invitation to be interviewed in your capacity as a recognized scholar and subject matter expert in the business intelligence subject area. The purpose of this qualitative single case study with embedded units is to understand the perceptions of knowledge workers on the interface of technostress and ICT-induced presenteeism on their work productivity

Before we get started and ensure consistency among participants' interview responses, I would like to share the definitions of terms we may use within the interview process as they are defined within this study.

Involuntary presenteeism*:* This term refers to where employees are forced to attend work while feeling ill.
Presenteeism: This term refers to the loss of productivity due to attending work while feeling ill.
Techno-overload: This term refers to a situation under which ICT users are forced to work more than the typical workload at a more fast-paced speed.
Technostress: This term refers to the stress induced by computer use felt by technophobia, confusion, fear, and anxiety.
Work Productivity: This term refers to the number of goods and services workers can produce in a given amount of time.

If you should need clarification on any question's content, please feel free to ask me to explain responding. Periodically I may ask clarifying questions or encourage you to describe in more detail. You are invited to elaborate where you feel comfortable and decline from doing so when you do not have information to add.

Before we begin the interview, you must be comfortable in your location, and you feel free to participate without interruptions. Do you feel this description describes your setting at this moment?

May I begin the interview?

1. Can you please describe the extent of your daily computer/online/screen time use directly related to your job duties?

2. Which technostress-related symptoms do you experience daily? Weekly?

3. How do you believe your job may induce stress-related symptoms because of extended computer use or techno-overload?

4. Can you tell me about a time when you have gone to work despite feeling that you were unwell and really should have taken sick leave? How often does this happen?

5. What makes you decide to go to work when you experience technostress-related symptoms?

6. Can you tell me about how you felt at a time when you decided to stay at home when you were feeling unwell due to job-induced technostress? How often does this happen?

7. In general, do your co-workers attend work or stay home when ill, and how does what they do in this respect influence what you do?

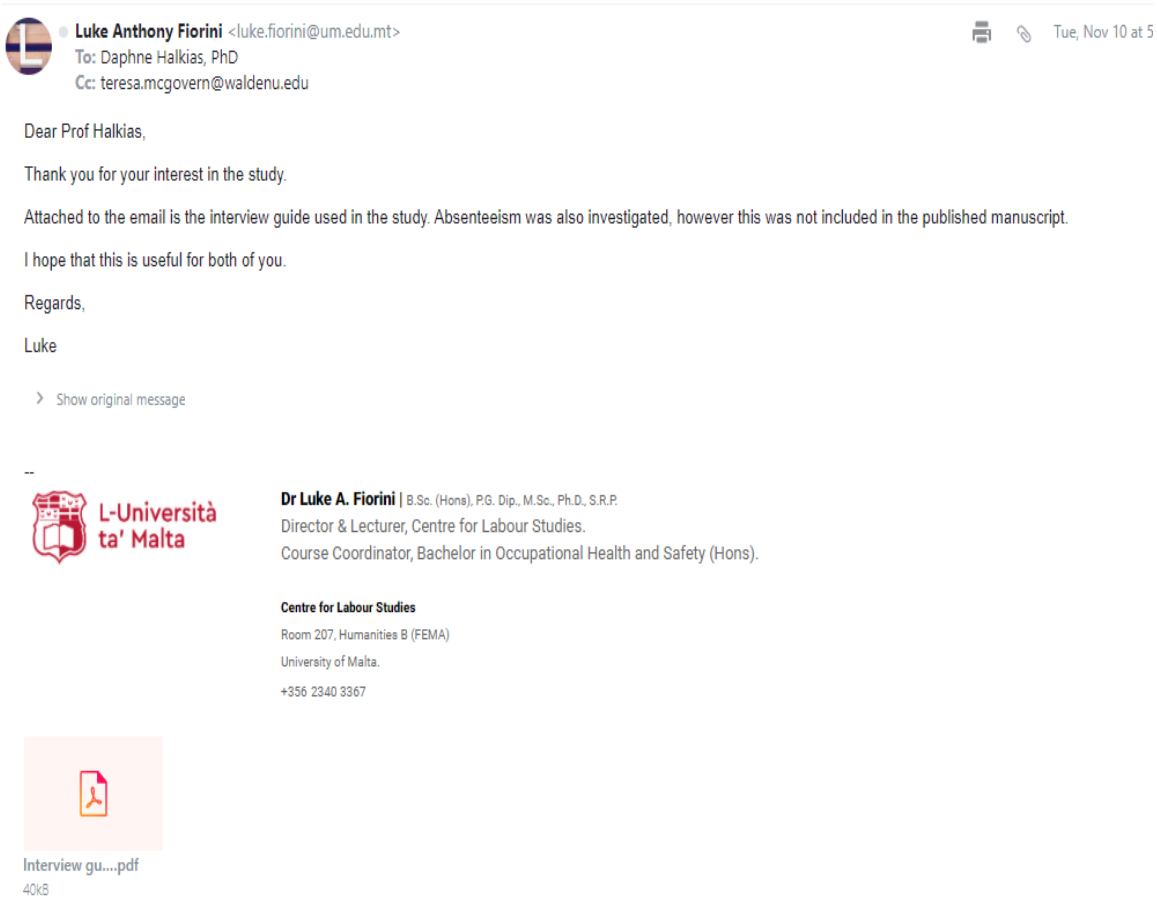
8. How do you believe that job-induced technostress brought on by techno-overload interfere with your work productivity?

9. Is there anything else we have not covered which you think is relevant to the issue of working when not feeling well due to job-induced technostress?

Thank you for assisting me with this research study. I will contact you via email once the transcription from our interview is finalized. I will provide a summary of the interview, and I would like for you to review the summary as a confirmation that I have captured the essence of what you have shared with me. If any discrepancies are found, I will correct the interpretations. Do you have any questions? Please contact me if you have any questions.

Interview questions adapted by permission (Appendix D) from:
Fiorini, L. A., Griffiths, A., & Houdmont, J. (2018). Reasons for presenteeism in nurses working in geriatric settings: A qualitative study. *Journal of Hospital Administration*, *7*(4), 9-16.

Appendix B: Permission to use Interview Protocol from Dr. Luke Fiorini, Director and Lecturer, Centre for Labour Studies at the University of Malta



Luke Anthony Fiorini <luke.fiorini@um.edu.mt>
To: Daphne Halkias, PhD
Cc: teresa.mcgovern@waldenu.edu

Tue, Nov 10 at 5

Dear Prof Halkias,

Thank you for your interest in the study.

Attached to the email is the interview guide used in the study. Absenteeism was also investigated, however this was not included in the published manuscript.

I hope that this is useful for both of you.

Regards,

Luke

Show original message

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L-Università ta' Malta

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