How and When Technostress Predicts Abusive Supervisor Behavior in Remote Work: An Integrative Theoretical Framework

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Technostress has become prevalent among employees due to the rise of remote work. While there is a plethora of research on the outcomes of technostress, its impact on abusive supervisor behavior has not been thoroughly explored. This study uses the transactional theory of stress and coping to propose a framework explaining how technostress can lead to abusive supervisor behavior in the context of remote work. The framework suggests that supervisors experience anxiety and anger as a result of technostress, which can lead them to engage in abusive behavior as a way of coping with these negative emotions. The study also suggests that supervisors' personality and moral traits can influence the relationship between technostress and abusive behavior. This framework contributes to understanding abusive supervision and expands the research on its causes and boundary conditions.

Keywords: technostress, remote work, abusive supervision, negative emotions, personality, moral traits

INTRODUCTION

The COVID-19 outbreak has led to a major increase in remote work, introducing new challenges for employees (Kramer & Kramer, 2020; Manroop & Petrovski, 2022). Before the pandemic, most people had little experience with remote work, and both employers and employees were unprepared for the shift (Wang et al., 2021). Consequently, remote workers have reported experiencing technostress (Spagnoli et al., 2020; Taser et al., 2022; Tuan, 2022) due to the sudden need to adapt to remote technologies without prior planning or experience. Technostress refers to the work-related stress caused by difficulties in using technology in a healthy manner (Ayyagari et al., 2011; Brod, 1984; Pirkkalainen et al., 2019).

Recent research has shown that remote work can negatively affect technology use (e.g., Ewers & Kangmennaang, 2023). For example, it can cause technostress (Marsh et al., 2022; Ingusci et al., 2021), which can lead to a decline in job performance (Penado Abilleira et al., 2021) and increase in emotional exhaustion (Bauwens et al., 2021). Further, this can result in increased work-family conflict (Molino et al., 2020) and harm the well-being and productivity of remote workers (Taser et al., 2022). However, the impact of technostress on abusive supervisor behavior in the context of remote work has not been fully explored. Thus, there is a need to investigate whether pandemic-induced remote work has increased or decreased abusive supervision (Priesemuth et al., 2022).

Abusive supervision refers to non-physical hostile actions by leaders towards subordinates (Tepper, 2000), which has gained attention among scholars since the 2000s. While research has focused on the causes of abusive supervision, Zhang and Bednall (2016) recommend further study on the mechanism and boundary conditions that lead to abusive supervision. Therefore, the current study draws on the transactional theory of stress and coping (Lazarus & Folkman, 1987) to explain how technostress can cause abusive supervisor behavior in remote work settings through mediation of the emotions anger and anxiety. In addition, the study investigates how personality traits and moral traits influence the relationship between technostress and abusive supervisor behavior.

This paper makes several important contributions. Firstly, it responds to the need for a comprehensive theoretical framework (Zhang & Bednall, 2016) to understand abusive supervision by integrating theories and literature from psychology, organization, and leadership research. Secondly, it expands our understanding of how technostress can lead to abusive supervision, contributing to the growing field of abusive supervision antecedent research. Thirdly, it responds to the calls for exploring the antecedents of abusive supervision (Tepper, 2007; Tepper et al., 2017) in the remote work setting, specifically considering technostress as a factor. Thus, this study integrates abusive supervision research with remote work and technostress literature, advancing both research areas. Additionally, it acknowledges abusive supervision as a negative coping behavior resulting from technology-induced stress. Finally, it examines the mechanism and boundary conditions in abusive supervision research by uncovering the underlying mechanism that leads to technostress-induced abusive supervisor behavior and including supervisors' personality and moral traits as moderators.

LITERATURE REVIEW

Abusive Supervision in Remote Work

Abusive supervisor behavior is a subjective assessment by the subordinates about their supervisors' hostile verbal and nonverbal behaviors (Tepper, 2000). Such abusive behavior may include various types of personal attacks, task attacks, and isolating the subordinates (Rodwell et al., 2014) in the form of humiliating, ridiculing, intimidating, yelling, screaming, using derogatory names, and withholding needed information (Keashly, 1998). Extant research suggests universally negative effects of abusive supervision (Mackey et al., 2017), which can be found in attitudes, performance, well-being, workplace behavior, organizational justice, and family-related outcomes of the subordinates (Zhang & Liao, 2015). Abusive supervision can lead to mental and physical health issues (Kelloway & Day, 2005), workplace deviance (Narayanan & Murphy, 2017), reduced creativity (Liu et al., 2012), increased procrastination (He et al., 2021), and increased anxiety and negative thoughts about work (Peltokorpi & Ramaswami, 2021). Additionally, it creates a bullying culture in the organization (Burton et al., 2012) and increases costs related to turnover, absenteeism, healthcare, and legal matters (Tepper et al., 2006).

The existing research on abusive supervision lacks insight on whether the context of abusive supervision has changed during remote work due to COVID-19 or if there has been an increase or decrease in abusive supervisor behavior compared to in-person work settings. However, it is known that the shift to remote work during the pandemic has presented significant challenges for supervisors, including managing a large volume of information, expectations of constant availability, technostress, effective communication, support, and supervision (Hamouche, 2021). The limited face-to-face interaction in the remote work environment has exacerbated mistrust between supervisors and subordinates, leading to micromanagement (Parker et al., 2020). Some researchers suspect an increase in abusive supervision in the virtual work environment due to lack of training and experience, as well as uncertainty about career advancement, job security, and pay cuts (e.g., Jha & Sud, 2020). However, these authors did not investigate the causes of abusive supervision in the context of remote work, which is the focus of the current study. Below, we will discuss the theoretical foundation and proposed integrative framework of the study.

Technostress in Remote Work

Technostress is considered as a modern disease by Brod (1984) that occurs due to inability to cope with the use of information communications and technology (ICT). Research suggests five technostress dimensions: techno-complexity, techno uncertainty, techno-insecurity, techno-overload, and techno-invasion (Tarafdar et al., 2007). Past research has consistently characterized technostress as a major job demand that cause psychological and physiological costs for employees (see Pansini et al., 2023; Taser et al., 2022; Zhao et al., 2020). Consequently, the negative impacts of technostress can be found in an individual's job related, well-being related and physiological outcomes (see review by Tarafdar et al., 2019).

Recent research (e.g., Banerjee & Gupta, 2024; Camacho & Barrios, 2022; Ewers & Kangmennaang, 2023) suggest that remote workers are more prone to get affected by technostress given that they extensively rely on the use of ICT for performing their jobs. Thus, technostress experienced in remote work setting can cause work-family conflict and behavioral stress (Molino et al, 2020), increase strain and hamper job performance (Di Dalmazi et al., 2022), and affect flow at work (Taser et al., 2022).

THEORETICAL FRAMEWORK AND PROPOSITIONS

We draw from the transactional theory of stress and coping (Lazarus & Folkman, 1987) and adopt the "stress-appraisal-coping" approach to propose that technostress experienced by supervisors triggers abusive behavior as a form of coping behavior among the supervisors, mediated by the emotions of anxiety and anger in supervisors. In addition, we suggest that abusive behaviors are contingent on supervisors' personality traits. We rely on the Big Five personality model, the most widely used framework in personality research (Camps et al., 2016). Among the five traits, we include neuroticism, conscientiousness, and agreeableness in line with past research (Camps et al., 2016; Eissa & Lester, 2017). Further, drawing on the social cognitive theory (Bandura, 1986), we suggest that abusive supervisor behavior is conditional on supervisors' perception of morality in the form of moral identity and moral disengagement. Figure 1 presents the integrative framework advanced in this paper.

FIGURE 1
PROPOSED INTEGRATIVE THEORETICAL FRAMEWORK
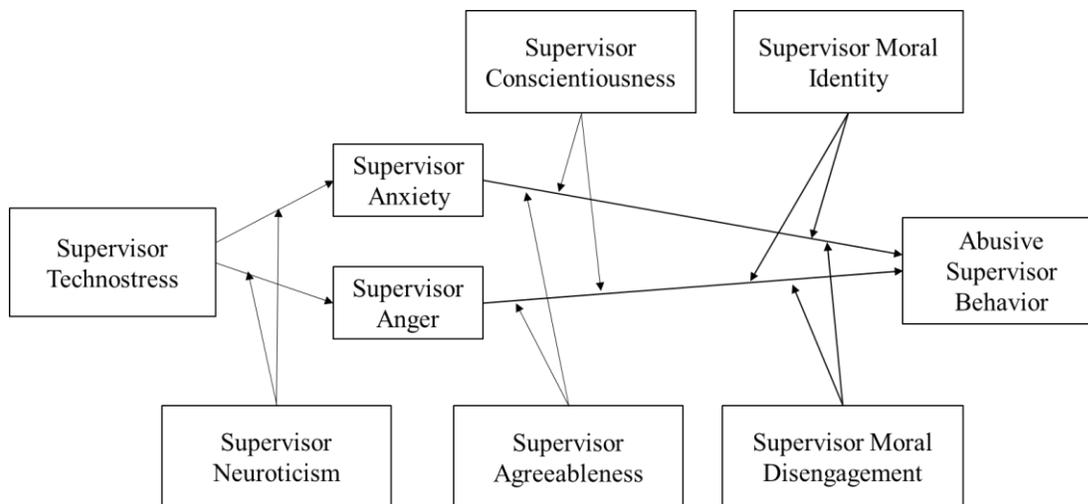
Cognitive Appraisal of Supervisor Technostress and Negative Emotions

The transactional theory of stress and coping (Lazarus & Folkman, 1984) suggests a psychological process through which individuals appraise stressful demands. The theory summarizes two subprocesses: the *appraisal process* and the *coping process*. Through the appraisal process, the individuals appraise a

stressful demand as a challenge or hindrance stressor depending on anticipated gain or loss in personal growth, achievements, and well-being (Lazarus & Folkman, 1987). While challenge stressors are associated with potential gains, hindrance stressors restrict one's achievement (Boswell et al., 2004). Researchers have predominantly framed technostress as a negative construct because of the negative psychological and behavioral outcomes.

Technostress is appraised as threatening and therefore considered a dark phenomenon in most of the past research (Tarafdar et al., 2019). The research on remote work also supports the notion of appraising technostress as a hindering instead of a challenging stressor. For example, remote users experience information overload due to multiple sources of information, lack of time to understand information, too much information, irrelevant information, and difficulty in managing information (Mungly & Singh, 2012), which result in increased fatigue (Lee et al., 2016). Moreover, remote work leads to role overload and conflict among remote workers causing increased exhaustion and burnout (La Torre et al., 2020). This line of argument is also supported by various past studies demonstrating that technostress is susceptible to increased exhaustion, burnout (Califf & Brooks, 2020; Gaudioso et al., 2017), and poor job performance (Brooks & Califf, 2017; Tarafdar et al., 2010) that certainly limits the personal gains of the supervisors. Thus, we argue that supervisors are likely to appraise technostress during remote work as a hindrance stressor that is threatening their personal growth and achievement at the workplace.

Further, hindrance stressors trigger negative emotions since they are appraised as harmful for personal gain (Cavanaugh et al., 2000). Anxiety and anger are discrete emotions generated due to the appraisal of threat and harm, respectively (Folkman & Lazarus, 1985). While anger is an emotional state that includes a range of feelings from mild irritation to fury and rage (Glomb, 2002), anxiety is an emotional response comprising feelings of worry, fear, and tension (Spielberger, 1972). Thus, given that technostress is a hindrance stressor, the supervisors are likely to experience a range of negative emotions (e.g., fear, anxiety, anger, worry) based on the appraisal process explained in the transactional theory of stress and coping (Lazarus & Folkman, 1987). Such argument aligns with the extant research that demonstrated a positive relationship between technostress and anger (Tarafdar et al., 2020), and technology use and anxiety (Brivio et al., 2018; Salanova et al., 2013). This reasoning leads to:

Proposition 1. *Supervisors' technostress is positively related to supervisors' (a) anxiety and (b) anger.*

Abusive Supervisor Behavior as a Coping Behavior

The transactional theory of stress and coping further proposes the coping process that individuals adopt cognitive and behavioral strategies to manage demands appraised as hindrance stressors (Lazarus & Folkman, 1984). Individuals adopt two coping strategies: problem-focused and emotion-focused (Lazarus & Folkman, 1984). Whereas problem-solving coping aims to solve the problem of stressful demands, emotion-focused coping involves regulating negative emotions (Lazarus & Folkman, 1984). Emotion-focused coping strategies are mostly related to adverse work outcomes since they adopt various behaviors including avoidance, withdrawal, showing aggression, and blaming (Zhao et al., 2020). Hence, supervisors are likely to engage in counterproductive work behaviors such as abusive behavior as emotion-focused coping because they appraise technostress as a hindrance stressor that triggers the negative emotions of anxiety and anger.

Past research has investigated various supervisor-related antecedents of abusive supervision including negative affect, stress, justice perception, leadership style, personality, power, gender, etc. (Zhang & Bednall, 2016). Research has also demonstrated that negative emotions are related to negative work outcomes including abusive behavior. For example, anger and anxiety of supervisors were found to be related to abusive supervision (Li et al., 2015; Mawritz et al., 2014). Supervisor frustration was also considered as an antecedent of abusive supervision (Eissa & Lester, 2017). The relationship between negative emotions and workplace deviance is also well-evident in past research (e.g., Chen et al., 2013; Spector & Fox, 2005). Further, research on anger demonstrated a positive relationship between anger and hostility (Eckhardt et al., 2004), and anger and aggression (Lochman et al., 2010).

Therefore, based on the "stress-appraisal-coping" approach of the transactional theory of stress and coping and extant literature, we argue that supervisors experiencing anxiety and anger are likely to be involved in abusive behavior as a coping means to mitigate the negative emotions associated with technostress.

Proposition 2. *Supervisors' (a) anxiety and (b) anger is positively related to abusive behavior.*

Combining the arguments on the appraisal process and coping process by supervisors, we propose that supervisors' technostress positively relates to abusive behavior through the mediation of anxiety and anger emotions.

Proposition 3. *Supervisors' (a) anxiety and (b) anger mediate the positive relationship between supervisors' technostress and abusive behavior.*

Moderating Effect of Supervisors' Personality Traits

Previous research has shown that neuroticism, conscientiousness, and agreeableness significantly correlate with aggressive conduct (e.g., Barlett & Anderson, 2012; Brees et al., 2014). However, very little research has been done in studying the interaction of all three about abusive supervision (Eissa & Lester, 2017). Further, to our knowledge only two research have examined the role of supervisor personality traits (Camps et al., 2016; Eissa & Lester, 2017), there is an absence of research that integrates the personality traits of supervisors to understand the impact of technostress on abusive supervision. Below we elaborate on neuroticism, conscientiousness, and agreeableness and how they are likely to determine abusive behavior by supervisors when faced with technostress during remote work.

Supervisors' Neuroticism

Neuroticism is a predisposition that depicts one's tendency to experience a variety of negative emotions (e.g., anxiety, anger, frustration, insecurity) (McCrae & John, 1992). Individuals with high levels of neuroticism are more susceptible to stress because they tend to be constantly worried (Camps et al., 2016; Mathisen et al., 2011). While neurotic individuals are less capable of coping with stress and exhibit anxiety, hostility, and self-consciousness, individuals low in neuroticism are more emotionally stable and can manage stress in a better way (Bettencourt et al., 2006).

As explained previously, drawing on the transactional theory of stress and coping (Lazarus & Folkman, 1987), we argue that when supervisors appraise the technology used in remote work as stressful and threatening to their well-being, they are likely to exhibit greater negative emotions. However, the intensity of such negative emotions is contingent on supervisors' level of neuroticism. Supervisors with high levels of neuroticism are more likely to perceive the events of technostress as more stressful and thus, they experience greater negative emotions such as anger and anxiety. Indeed, supervisors high in neuroticism exhibit greater anger, irritation, and hastiness than supervisors with low neuroticism levels (Costa & McCrae, 2000). Moreover, past research suggests anger and anxiety to be strongly related to neuroticism (see Jylhä & Isometsä, 2006; Martin et al., 2000). Therefore, we argue that trait neuroticism will strengthen the relationship between supervisors' experience of technostress and their negative emotions of anger and anxiety.

Proposition 4. *Supervisors' neuroticism moderates the positive relationships of technostress with supervisors' (a) anxiety and (b) anger, such that these relationships are stronger when supervisors' neuroticism is high (vs. low).*

Supervisors' Agreeableness

While a supervisor's high neuroticism is likely to increase anger and anxiety while experiencing technostress, a high level of agreeableness may decrease it. Agreeableness is a trait that describes a concern for others directed towards interpersonal relationships (Bettencourt et al., 2006). Individuals who are high

in agreeableness also demonstrate trust, straightforwardness, selflessness, agreement, and humility (Bettencourt et al., 2006). High agreeableness reduces the chances of a leader abusing their power, making them more effective leaders (Blake et al., 2022; Fosse et al., 2023; Foulk et al., 2018). On the other hand, supervisors low in agreeableness are not very concerned about the impact they have on the well-being of their employees with their abusive behavior (Tepper, 2007). Past research suggests that high agreeableness reduces counterproductive and deviant behaviors (Berry et al., 2007) and reduces abusive supervision (Breevaart & de Vries, 2017; Eissa & Lester, 2017). This is because people high in agreeableness can control their impulses and emotions more easily (Tobin et al., 2000; Yang & Diefendorff, 2009), which further helps them reduce abusive behavior.

As we explained earlier, supervisors engage in abusive behavior when they experience anxiety and anger as they appraise technostress as harmful and threatening to their well-being. However, supervisors high in agreeableness may draw on their abilities and resources from this trait to cope with this stressful situation, which may refrain them from engaging in abusive behavior. Since high agreeableness helps the supervisors to regulate their anger impulses (Fosse et al., 2023; Jensen-Campbell et al., 2003), they are less likely to ridicule their subordinates (Camps et al., 2006). On the other hand, supervisors low in agreeableness are more likely to engage in abusive behavior because they are not concerned about other's well-being (Tepper, 2007) and are less capable of controlling their aggressive responses (Costa & McCrae, 2000). Thus, we argue that supervisors with high agreeableness traits are less likely to engage in abusive behavior in the face of technostress because agreeableness helps them to regulate their negative emotions of anger and anxiety.

Proposition 5. *Supervisors' agreeableness moderates the positive relationships of (a) anxiety and (b) anger with abusive behavior, such that these relationships are stronger when supervisor agreeableness is low (vs. high).*

Supervisors' Conscientiousness

Similar to agreeableness, a high level of individual conscientiousness has been associated with a lower level of negative affect (Javaras et al., 2012). Conscientiousness helps with one's ability to self-regulate and with that not to act on their anger and anxiety (Wagner et al., 2012). However, individuals with lower conscientiousness react instinctively in a negative way (Elfenbein, 2014). Conscientiousness makes people be more careful, responsible, hardworking, persevering in hard times, self-disciplined, and ethical (Barrick & Mount, 1991; Colquitt et al., 2006; Costa & McCrae, 1992; Moon, 2001). Individuals high in conscientiousness exhibit greater regulatory abilities in the face of negative events (Colbert et al., 2004; Salgado, 2002). They are less likely to react negatively such as with aggression in times of negative situations but can be wise and strategic during those negative events (Yang & Diefendorff, 2009). Also, individuals high in conscientiousness are less prone to react and be provoked by negative emotions while they are more likely to deal with an issue constructively than those low in conscientiousness (Cullen & Sackett, 2003; Ilies et al., 2006; Yang & Diefendorff, 2009).

Drawing on the transactional theory of stress and coping (Lazarus & Folkman, 1987), we argued previously that supervisors who appraise technostress as a stressful situation experience high levels of anxiety and anger, which further leads to abusive behavior. However, supervisors high in conscientiousness might have a higher regulation ability to deal with negative emotions that are likely to prevent them from engaging in abusive behavior. On the other hand, supervisors low in conscientiousness may react impulsively and be unethical (Eissa & Lester, 2017). In other words, when supervisors face technostress during remote work, high conscientiousness may be less prone to act in an abusive manner towards their subordinates because they feel responsible for their subordinates (Mathisen et al., 2011).

Proposition 6. *Supervisors' conscientiousness moderates the positive relationships of (a) anxiety and (b) anger with abusive behavior, such that these relationships are stronger when supervisor conscientiousness is low (vs. high).*

We further propose the following moderated mediation relationships by integrating the theoretical arguments presented in propositions 4, 5, and 6.

Proposition 7. *The positive indirect effects of supervisors' technostress on abusive behavior via supervisor experienced (a) anxiety and (b) anger are the strongest when supervisors' neuroticism is high.*

Proposition 8. *The positive indirect effects of supervisors' technostress on abusive behavior via supervisor experienced (a) anxiety and (b) anger are the strongest when supervisors' conscientiousness is low.*

Proposition 9. *The positive indirect effects of supervisors' technostress on abusive behavior via supervisor experienced (a) anxiety and (b) anger are the strongest when supervisors' agreeableness is low.*

Moderating Effects of Moral Traits

Abusive supervisor behavior is treated as an exemplar of moral transgressions that endanger the care and justice component of supervisors' moral self-concept (Liao et al., 2018). The moral balance model suggests that individuals tend to balance moral and immoral actions to maintain a favorable moral self-concept (Nisan, 1991). Consequently, it does not seem reasonable to assume that all leaders who experience negative emotions of anxiety and anger will always and equally engage in abusive supervisor behavior. Rather we believe the consequences of negative emotions experienced from technostress depend on supervisors' moral traits. Drawing on extant leadership research, we identify moral identity and moral disengagement as two relevant dimensions of moral traits. These two dimensions are appropriate and important to incorporate in the current study because moral identity is a fundamental presumption for ethical behavior (Skubinn & Herzog, 2016) and moral disengagement is an important predictor of ethical leadership that helps us to understand why leaders vary on the continuum of ethical behavior (Bonner et al., 2016).

Supervisors' Moral Identity

Moral identity is a trait that is a component of one's self-conception about being ethical and is organized around other moral traits (e.g., honesty, caring, friendliness, generosity, fairness, and kindness) (Aquino & Reed, 2002). Through moral identity, individuals determine when and why they engage in moral behavior (Zhu, 2008). Based on Bandura's (1986) social cognitive theory, it is posited that moral identity serves as a self-regulatory mechanism to guide ethical behavior. In other words, individuals high in moral identity tend to have readily stimulated and available moral traits (Aquino & Freeman, 2009). This rationale derives from Bandura (1991) who suggested individuals with high moral identity possess high moral self-regulation capability.

With high moral self-regulation, individuals can compare their actions with moral standards and refrain from violating them (Bandura, 1986). Supporting this line of argument, past research demonstrated a positive relationship between moral identity and ethical behavior among leaders (Sanders et al., 2018). A meta-analysis by Hertz and Krettenauer (2016) concluded that moral identity fosters prosocial behavior while inhibiting antisocial behavior. In contrast, individuals with low moral identity do not tend to have readily stimulated and available moral traits (Aquino & Freeman, 2009) and are unable to engage in moral self-regulation (Keem et al., 2018). Consequently, individuals with low moral identity do not feel ashamed of their unethical actions (Aquino & Reed, 2002). Therefore, based on these arguments and findings, we suggest that supervisors high in moral identity can differentiate between ethical and unethical actions, making them less likely to engage in abusive behavior although they suffer from negative emotions due to technostress. Conversely, supervisors with low moral identity are more likely to engage in abusive behavior once they encounter negative emotions from technostress.

Proposition 10. *Supervisor moral identity moderates the positive relationships of (a) anxiety and (b) anger with abusive behavior, such that these relationships are stronger when supervisor moral identity is low (vs. high).*

Supervisors' Moral Disengagement

The second moral trait that we consider is moral disengagement, rooted in Bandura's (1986) social cognitive theory. Bandura (1999) talked about moral disengagement as an extension of the social cognitive theory and defined moral disengagement as a psychological process of disengaging moral reactions from inhumane conduct to violating moral standards. Through cognitive restructuring, individuals tend to morally accept unethical behaviors as justified (Bandura, 1999). In other words, such a disengagement mechanism allows individuals to rationalize their immoral actions without feeling guilt (Eissa & Lester, 2021).

Past studies have linked moral disengagement with counterproductive work behavior (Fida et al., 2018), workplace deviance (Liu et al., 2012), workplace harassment (Claybourn, 2011), unethical work behavior (Barsky, 2011), undermining (Lee et al., 2016), and sabotage and hostility at work (Huang et al., 2019). Additionally, research has demonstrated that leaders engage in abusive behavior when they exhibit a high level of moral disengagement (Rice et al., 2021; Eissa & Lester, 2021). Based on the foregoing, we argue that supervisors who experience negative emotions due to technostress are likelier to engage in abusive supervisor behavior if they exhibit high moral disengagement. In contrast, individuals low in moral disengagement experience psychological dissonance when they compare unethical behavior to their moral standards (Bandura, 1999). Consequently, supervisors low in moral disengagement are less likely to engage in abusive behavior although they suffer from negative emotions generated from technostress.

Proposition 11. Supervisors' moral disengagement moderates the positive relationships of (a) anxiety and (b) anger with abusive behavior, such that these relationships are stronger when supervisor moral disengagement is high (vs. low).

Integrating the theoretical arguments presented in propositions 10 and 11, we further propose the following moderated mediation relationships.

Proposition 12. The positive indirect effects of supervisors' technostress on abusive behavior via supervisor experienced (a) anxiety and (b) anger are the strongest when supervisors' moral identity is low.

Proposition 13. The positive indirect effects of supervisors' technostress on abusive behavior via supervisor experienced (a) anxiety and (b) anger are the strongest when supervisors' moral disengagement is high.

DISCUSSION

Drawing on the transactional theory of stress and coping, we proposed an integrative theoretical framework to enhance our understanding of how and when supervisor technostress predicts abusive supervisor behavior. We argued that supervisors suffer from technostress while working remotely which they perceive as a hindrance stressor because of potential adverse impacts. Consequently, the supervisors experience negative emotions of anxiety and anger that further instigate abusive behavior towards their subordinates. We further argued that abusive supervisor behavior depends on supervisors' personality and moral traits. Theoretical and practical implications, limitations, and future research directions are discussed below.

THEORETICAL IMPLICATIONS

The current research contributes to theory and literature in several important ways. First, it responds to the need for a comprehensive theoretical framework (Zhang & Bednall, 2016) to understand abusive supervision from a phenomenon perspective by integrating theories and literature from psychology, organization, and leadership research. Second, this research contributes to the growing field of abusive supervision antecedent research by expanding our understanding of how and when technostress leads to abusive supervision. Although various supervisor-level antecedents are examined in past research (e.g.,

Burton et al., 2012; Eissa & Lester, 2021; Lam et al., 2017; Ng et al., 2021), the role of supervisor-experienced technostress is unknown from the extant literature. Third, by responding to the calls for exploring the antecedents of abusive supervision (Tepper, 2007; Tepper et al., 2017) in the remote work setting, we extend the literature on abusive supervision beyond the traditional in-person workplace setting and create a new stream of investigation in the field of remote work. Although remote work research has examined various negative outcomes (see Boell et al., 2016; Marsh et al., 2022; Nakrošienė et al., 2019), the impact on supervisors' behavior remained unexplored.

Additionally, given that research on coping with technostress is very limited, we acknowledge abusive supervision as a negative coping behavior resulting from technology-induced stress, which develops clarity regarding the psychological mechanism of coping behavior related to technostress. Finally, we include supervisors' personality traits and moral traits as moderators that define the boundary conditions for the indirect effects of supervisors' technostress on abusive behavior mediated by anxiety and anger. In doing so, we respond to the call for examining the mechanism and boundary conditions in abusive supervision research (Zhang & Bednall, 2016).

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

The current theoretical framework has certain limitations that need to be acknowledged, however, it offers direction for future research. First, the model conceptualized the antecedent variable technostress as a broad construct in this research. However, as mentioned earlier, Tarafdar et al. (2007) developed five subfactors of technostress: techno-overload, techno-invasion, techno-complexity, techno-insecurity, and techno-uncertainty. These five subfactors could be used separately to build distinct propositions in future research. Several scholars in extant literature have hypothesized based on the distinct five subfactors of technostress for empirical research. For example, Califf and Brooks (2020) investigated how five techno-stressors impact burnouts among schoolteachers and found that all five stressors positively predict burnout. Nevertheless, in a recent study, Li and Wang (2021) found that although techno-complexity and techno-insecurity negatively impact work performance, techno-overload positively influences work performance. Thus, the five technostressors may have differential impacts on the outcome variables such as abusive supervision that could be considered in future research.

Second, although the present research included personality and moral traits to define boundary conditions, future research could shed light on demographic and job characteristics. For instance, extant research has demonstrated that females engage in aggressive behavior less frequently than males, and younger individuals are more likely to engage in aggressive behavior (e.g., Mawritz et al., 2012). Likewise, both the gender and age of the supervisor can be potential covariates because the level of technostress is contingent on gender and age group differences (e.g., Marchiori et al., 2019). Past research has also shown that leader-member exchange quality plays a significant role among leaders to engage in abusive behavior (e.g., Harris et al., 2011). Further, it is also evident that job demands lead to high emotional exhaustion and related negative outcomes (Bakker & Demerouti, 2007). Thus, researchers may include additional moderators based on individual and job characteristics that explain the differences in abusive behavior while testing the model empirically.

Third, future researchers could also consider theorizing technostress as a challenge stressor besides a hindrance stressor. In a recent study, Califf and Brooks (2020) investigated both the bright and dark sides of technostress and found that the challenge technostressors are related to positive reactions and behaviors. Therefore, exploring the positive consequences of technostress would provide a unique and valuable addition to the extant literature.

Most importantly, empirical validation of the current conceptual framework is vital. Future research could consider a multi-level approach by including supervisors and subordinates in data collection, reducing the potential for common method variance. Further, Mawritz et al. (2014) referred that using supervisor-subordinate dyads in measuring abusive supervision can be problematic since the supervisors consider the members of a workgroup as a single unit and exhibit similar behavior towards all group members. Hence, future research could consider studying abusive supervision as a group-level phenomenon.

PRACTICAL IMPLICATIONS

The anticipated findings of the current study yield some important managerial implications. Considering that abusive supervision leads not only to financial costs to the organizations but also to negative personal outcomes (Martinko et al., 2011), understanding the predictors of abusive supervision is essential. Although abusive supervisor behavior is contingent on various personal and contextual factors, supervisors' technostress can intensify the extent of abusive supervision. Moreover, given that remote work offers numerous benefits (e.g., increased flexibility, time-saving due to no commute, and work-life balance), remote work will stay here (Smite et al., 2023).

Therefore, the key decision-makers in the organizations should closely monitor the impact of technostress in remote work and try to explore practices that minimize the extent of technostress. For example, informing and educating supervisors and their subordinates about technostress along with encouraging them to adopt various coping behaviors can mitigate the adverse impact of technostress (Tarafdar et al., 2020). Additionally, organizations need to create and communicate policies that clearly show the organization's position against any type of aggressive behavior regardless of the supervisor's position. These policies would not just help provide a safe work environment for all employees but would also curtail the expenses related to such harmful conduct.

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