

**Employees' Reactions Towards COVID-19 Information Exposure: Insights from Terror
Management Theory and Generativity Theory**

Abstract

As the coronavirus disease 2019 (COVID-19) has imposed significant risks to our health and affected our social and economic order, information on COVID-19 becomes readily accessible via various mass media and social media. In the current research, we aim to understand the impacts of employees' exposure to COVID-19 information on their workplace behaviors. Integrating Terror Management Theory (TMT; Becker, 1973; Greenberg et al., 1986) with Generativity Theory (Erikson, 1963, 1982), we proposed and investigated two psychological mechanisms (i.e., death anxiety and generativity-based death reflection) that account for the effects of employees' COVID-19 information exposure on their work withdrawal and helping behaviors towards coworkers. We also examined organizational actions (internal and external corporate social responsibility [CSR] activities) that served as a context for employees to make sense of their COVID-19 information exposure. We conducted two studies with samples of full-time employees ($N_1 = 278$; $N_2 = 382$) to test our predictions. Results in both studies showed that employees' exposure to COVID-19 information was positively related to their death anxiety and generativity-based death reflection, which in turn predicted their work withdrawal and helping behaviors, respectively. Further, employees' perceived internal CSR of their organization mitigated the positive association between COVID-19 information exposure and their death anxiety, weakening the positive indirect effect of COVID-19 information exposure on their work withdrawal. Our study offers new insights to the understanding of work and employment in COVID-19 pandemic and sheds light on how individuals' death related experiences shape work-related behaviors.

Keywords: death anxiety, death reflection, generativity, terror management theory

Employees' Reactions Towards COVID-19 Information Exposure: Insights from Terror Management Theory and Generativity Theory

The coronavirus disease 2019 (COVID-19) has affected over 200 countries, areas, and territories around the world and has resulted in millions of deaths worldwide. Due to its widespread influences on the financial, physical, and psychological well-being of the global population, information of COVID-19 occupies the news headlines and is readily available across various mass media and social media (e.g., daily updates on death toll). Given the increasing death toll, the relatively high mortality rate, and the highly contagious nature of COVID-19, we consider COVID-19 as a salient morality cue. Accordingly, exposure to COVID-19 information is expected to make death salient and proximal and make individuals become conscious of their mortality (Grant & Wade-Benzoni, 2009).

To offer a more comprehensive understanding of the impact of COVID-19 information exposure on working adults, we integrate two theories pertinent to individuals' death-related experiences—Terror Management Theory (TMT; Becker, 1973; Greenberg et al., 1986; Solomon et al., 1991) and Generativity Theory (Browning, 1975; Erikson, 1963, 1982; Kotre, 1984)—to investigate both the adaptive and maladaptive reactions that employees may have towards their COVID-19 information exposure. The specific objectives of our current research are three-fold. First, we examine employees' psychological reactions towards their exposure to COVID-19 information. As explained in detail below, TMT suggests that employees may experience death anxiety when faced with COVID-19 information exposure, whereas Generativity Theory suggests that employees may respond to such exposure with generativity-based death reflection. Second, based on TMT and Generativity Theory, we further investigate employees' workplace behaviors resulting from their experienced death anxiety and reflection. TMT suggests that employees experiencing death anxiety may engage in avoidance-based responses, which can detract their efforts at work, thereby resulting in work withdrawal.

Generativity Theory, on the other hand, suggests that employees experiencing generativity-based death reflection may engage in helping behaviors at work due to the activation of generative values of making connections and contributions. Finally, we are interested in understanding how organizational actions may serve as important contextual cues that shape employees' responses towards COVID-19 information exposure. We focus on firm corporate social responsibility (CSR) practices as the moderators, because internal and external CSR practices can have important implications for the premises of TMT and Generativity Theory. Inspired by TMT, we expect that internal CSR that aims to protect and support employees during the pandemic may weaken the association between exposure to COVID-19 information and death anxiety, because such actions demonstrate organizations' genuine concerns for their employees, which may help employees cope better with their information exposure to the mortality cue (COVID-19). Further, following Generativity Theory, we expect that external CSR which emphasizes future orientation and long-term impact and signifies concerns for others can contribute to the development of employees' generativity-based death reflection in the face of COVID-19 information exposure. In short, we consider internal (employee-oriented) and external (external stakeholder-oriented) CSR activities implemented by organizations during the COVID-19 pandemic as critical contexts that shape the links between COVID-19 information exposure and employee reactions.

Our research has both theoretical and practical importance. From a theoretical standpoint, our research is among the first to simultaneously apply TMT and Generativity Theory to examine consequences of employees' exposure to COVID-19 information in the organizational setting (for a detailed literature review, please see Appendix A). Prior research (e.g., Hu et al., 2020) invoked TMT to investigate how mortality salience triggered by COVID-19 related to employees' experienced state anxiety, which in turn related to lower job engagement and prosocial behavior. Our research expands beyond this perspective to provide theoretical richness

and precision in documenting two separate psychological mechanisms through which employees react to COVID-19 information exposure. In addition to death anxiety, we examine how generativity-based death reflection can explain why employees have positive behavioral reactions in response to COVID-19 information exposure. Further, while prior research has predominantly focused on individual differences that could moderate the effects of death saliency on psychological and behavioral reactions (e.g., De Clercq et al., 2021; Raja, 2020), our research also highlights the importance to consider firm actions as contextual characteristics that may affect employees' death related experiences and reactions. Applying and extending TMT and Generativity Theory, our research documents how the organizational contexts may shape employees' reactions to COVID-19 information exposure, such as mitigating the maladaptive reactions and enhancing adaptive reactions. From a practical standpoint, findings from our research can provide insights to organizations about engaging in appropriate organizational actions (e.g., CSRs directed at different stakeholders) to promote employee adaptive and mitigate their maladaptive reactions towards COVID-19 information exposure.

Theoretical Development and Hypotheses

COVID-19 Information Exposure and Employee Reactions

Consistent with prior research (Niederdeppe et al., 2007), we define COVID-19 information exposure as individuals' COVID-19-related information acquisition via exposure to mediated sources. According to TMT, activities or events that make death salient can be considered as "mortality cues" (Greenberg et al., 1986; Paulhus & Trapnell, 1997). Given that COVID-19 has resulted in millions of deaths globally, we argue that COVID-19 is one mortality cue that has made death more salient, relevant, and proximal. As such, exposure to COVID-19 information is expected to make individuals conscious about their mortality. Because both TMT (Becker, 1973; Greenberg et al., 1986) and Generativity Theory (Erikson, 1963, 1982) concern how individuals respond to the notion of death or death-related threats, we believe they can offer

insights to understand how COVID-19 information exposure may affect employees' reactions. As suggested by these two theories, individuals may respond to their awareness of mortality in different ways.

In particular, TMT states that "of all things that move man, one of the principal ones is his terror of death" (Becker, 1973, p. 11). People cherish life. Thus, knowing death is inevitable renders us consumed with terror (Becker, 1973). Because people have innate fear of death and desire to deny death (Becker, 1973; Cozzolino et al., 2004), they experience death anxiety when confronted with information or events that make mortality salient (Pyszczynski et al., 2015). Death anxiety refers to "individuals' experiences of fear, panic, and dread about their own mortality" (Grant & Wade-Benzoni, 2009, p. 605). Given the severity of COVID-19, we expect that when employees are exposed to information on COVID-19, they may be reminded of and concerned with their own mortality, resulting in their experienced death anxiety. We further expect that when employees experience death anxiety due to their exposure to COVID-19 information, they are likely to engage in work withdrawal, defined as "behaviors individuals use to avoid aspects of their specific work-role or minimizing the time spent on their specific work tasks" (Hanisch & Hulin, 1991, p.111). The theoretical rationales for this prediction are two-fold. First, according to TMT, when individuals experience death anxiety, they tend to engage in avoidance-based responses (Greenberg et al., 1986; McKenzie et al., 2017). These avoidance-based reactions include effortful suppression of death thoughts (Arndt et al., 1997) and behavioral and mental disengagement (Carver et al., 1989). All these avoidance-based responses can substantially detract individuals' efforts that can otherwise be devoted to their work. Thus, we expected that employees experiencing death anxiety are likely to engage in work withdrawal. Second, prior research suggests that withdrawal can serve as a coping strategy for employees experiencing negative affective states (e.g., Scott & Barnes, 2011). Indeed, Sliter et al. (2014) found that nurses and firefighters with higher death anxiety were likely to experience reduced

engagement at work. Taken together, we expect that employees experiencing death anxiety as triggered by COVID-19 information exposure are likely to withdraw at work.

Hypothesis 1: Employees' death anxiety mediates the positive relationship between their COVID-19 information exposure and their work withdrawal.

Generativity Theory (Browning, 1975; Erikson, 1963, 1982; Kotre, 1984), on the other hand, suggests that individuals may respond toward mortality or death related threats in more adaptive ways. The notion of generativity was first introduced by Erik Erikson in his psycho-social theory delineating eight stages of human development (Erikson, 1950). The term "generativity" was originally defined as an interest in "guiding the next generation" (Erikson, 1963, p. 267). According to Erikson (1963), those who take an adaptive approach to accept death and commit to making contributions to the younger generations achieve generativity. Extending the work of Erikson, McAdams and de St. Aubin (1992) emphasized two primary aspects of generativity: to make long lasting contributions and to develop connections with others (and not necessarily just with the younger generations). These authors argue that when individuals consider their own mortality, they may engage in positive death reflection, deliberating the meaning and purpose of their lives. This positive death reflection tends to be anchored by generativity-based concerns, driving individuals to consider productive ways to connect with others and make contributions to others' lives (Cozzolino et al., 2004; Grant & Wade-Benzoni, 2009; Ring, 1984). Thus, following Generativity Theory, we expect that when employees are exposed to a salient mortality cue (e.g., COVID-19 information), they are likely to engage in death reflection, contemplating the meaning of their lives and embrace generative values.

We further expect that when employees experience generativity-based death reflection due to their exposure to COVID-19 information, they are more likely to engage in helping behaviors towards their coworkers, defined as discretionary behaviors intended to assist coworkers to resolve or avoid work-related issues (Podsakoff et al., 2000). According to

Generativity Theory, generativity-based death reflection is likely to lead to personal efforts to develop connections to and promote the welfare of others (McAdams & de St. Aubin, 1992), as well as endorsing prosocial values (Joireman & Duell, 2005). Thus, we expect employees' generativity-based death reflection to translate into helping behaviors at work because helping behaviors fulfill their generativity-related pursuit (i.e., making connections and contributions). Indeed, prior research has shown that helping others at work makes employees to feel socially connected with others and capable of contributing (Armstrong-Carter et al., 2020).

Hypothesis 2: Employees' generativity-based death reflection mediates the positive relationship between COVID-19 information exposure and helping behaviors at work.

Corporate Social Responsibility (CSR) Practices as Moderators

Inspired by TMT and Generativity Theory, we propose that an organization's internal and external CSR actions serve as the context in shaping how employees respond to COVID-19 information exposure. We focus on firm CSRs as the moderators, because internal and external CSR practices can have important implications for the premises of TMT and Generativity Theory. According to TMT (Becker, 1973; Greenberg et al., 1986), whether the exposure to a mortality cue may translate into death anxiety depends on the level of fear and threat the focal person experiences from being conscious of the mortality cue. Thus, we expect that an organization's internal CSR actions can mitigate the effect of exposure to COVID-19 information on employees' death anxiety because internal CSR reflects organizational policies and practices that promote employees' psychological and physiological well-being (Hameed et al., 2016). These employee-oriented protective organizational actions are likely to make employees feel safe, thereby making "death" less threatening. Facing the COVID-19 pandemic, many organizations have introduced new pandemic-related internal CSR programs to provide better protection of employees' physical health and safety, and to support employees to better balance work and non-work demands (García-Sánchez & García-Sánchez, 2020; Manuel &

Herron, 2020). These pandemic-related internal CSR activities communicate to employees that the company values and places high priority on the health, safety, and well-being of its workers. As such, when employees are exposed to COVID-19 information, those who perceive higher (vs. lower) internal CSR are less likely to experience death anxiety because these internal CSR activities reflect a context in which they feel more protected and less threatened by the pandemic. As we expect employees' death anxiety to mediate the relationship between their COVID-19 information exposure and work withdrawal, we further expect that this positive indirect effect is weaker when employees perceive higher (vs. lower) pandemic-related internal CSR.

Hypothesis 3a: Pandemic-related internal CSR attenuates the positive relationship between employees' COVID-19 information exposure and death anxiety.

Hypothesis 3b: The positive indirect effect of employees' COVID-19 information exposure on their work withdrawal via death anxiety is weaker when they perceive higher (vs. lower) pandemic-related internal CSR.

On the other hand, Generativity Theory (Erikson, 1963, 1975, 1982) suggests that individuals' consideration and internalization of generative values are heavily influenced by the environment and context around them. In this case, we argue that an organization's external CSR can serve as the contextual cue that amplifies the positive relationship between exposure to COVID-19 information and employees' generativity-based death reflection because these altruistic organizational actions can model generative behaviors and signal generative norms and expectations to employees. External CSR refers to organizational policies and practices that benefit the external stakeholders (e.g., customers, the local community, environment, and the society at large) of the organization (Hameed et al., 2016). As a result of the COVID-19 pandemic, many organizations have actively engaged in externally-oriented CSR initiatives to help fight the virus and protect the safety, well-being, and interests of their customers and other external stakeholders (Manuel & Herron, 2020). These pandemic-related external CSR activities

are generative in nature, because they not only connect the organizations with their external stakeholders, but also make important contributions to addressing external stakeholders' needs in the wake of the COVID-19 pandemic.

We argue that external CSR actions create an organizational context that emphasizes generative values such as caring for others and making positive changes and contributions. Thus, when exposed to COVID-19 information, those who perceive higher (vs. lower) external CSR are more likely to respond with generativity-based death reflection because it is consistent with the values conveyed and modeled by the organization. As we expect employees' generativity-based death reflection to mediate the relationship between their COVID-19 information exposure and helping behaviors at work, we further expect that this positive indirect effect is stronger when employees perceive higher (vs. lower) external CSR.

Hypothesis 4a: Pandemic-related external CSR amplifies the positive relationship between COVID-19 information exposure and generativity-based death reflection.

Hypothesis 4b: The positive indirect effect of employees' COVID-19 information exposure on their helping behaviors via generativity-based death reflection is stronger when employees perceive higher (vs. lower) pandemic-related external CSR.

Study 1

Method

Participants and procedure. We recruited participants through Qualtrics (each participant received about US\$15). All participants were full-time employees from the townships in the Greater Toronto Area (GTA)¹ of Canada, who belonged to the active research participant panel run by Qualtrics. We administered our research surveys at three time points, with one-month separation between each survey. Participants reported their COVID-19 information exposure, perceived pandemic-related internal and external CSR, and demographics at Time1, death anxiety and generativity-based death reflection at Time 2, and work withdrawal and

helping behaviors towards coworkers at Time 3. 1229 participants completed Time 1 survey, 553 of them completed Time 2 survey, and 315 participants completed all three surveys (26% full response rate). We removed participants who failed the attention check for at least one of the three surveys, resulting in a final sample size of 278. The participants had an average age of 48.2 years ($SD = 11.3$), an average organizational tenure of 13.6 years ($SD = 10.0$), were 47% female, and 76% had a college education or above. Participants were working in different industries, such as accommodation and food services, education, finance, and insurance.

Measures. A 5-point Likert scale rating format (1 = *strongly disagree* to 5 = *strongly agree*) was used unless otherwise noted (all measures are presented in Appendix B). We adapted the medical information exposure measures (e.g., Kelly et al., 2009; Shim et al., 2006) to the COVID-19 context to form a 2-item COVID-19 information exposure scale (following Eisinga et al., 2013, the Spearman-Brown $\rho = .68, p < .001$). We adapted Turker's (2009) 4-item measure of employee-oriented CSR to assess pandemic-related internal CSR ($\alpha = .89$) and 7-item of society-oriented CSR to assess pandemic-related external CSR ($\alpha = .91$). We adapted Yuan et al.'s (2018) 6 items to form the generativity-based death reflection measure ($\alpha = .86$). Employees rated death anxiety with 15 items from Templer (1970; $\alpha = .83$), work withdrawal with 12 items from Lehman and Simpson (1992; $\alpha = .87$), and helping behaviors with 7 items from Podsakoff et al. (1997; $\alpha = .88$). We controlled for age and gender because of their potential effects on death anxiety (Russac et al., 2007). Because GTA includes many townships, we also controlled for the confirmed and suspected COVID-19 cases in the participants' local township because the number of COVID-19 cases might be related to death anxiety (Hu et al., 2020).

Results and Discussion

Table 1 presents the correlations and descriptives of the variables. We first conducted confirmatory factor analyses using Mplus 7 (Muthén & Muthén, 1998-2017) to examine the construct validity of our measures. Landis et al. (2000) was followed to parcel the items. We did

not parcel information exposure as it had only two items. All parcels loaded significantly on the corresponding constructs (standardized factor loadings ranging from .58 to .98). This 7-factor CFA model fit the data well², $\chi^2(188) = 313.25$, $p = .00$, CFI = .97, SRMR = .05, RMSEA = .05.

We conducted path analysis to examine the mediation effects in our model. Table 2 and Figure 1 summarize the unstandardized coefficients estimated in our model. As shown in Table 2, COVID-19 information exposure was positively related to death anxiety ($B = .11$, $p = .003$) and death reflection ($B = .12$, $p = .006$). Death anxiety was positively related to work withdrawal ($B = .16$, $p = .008$), and generativity-based death reflection was positively related to helping behaviors ($B = .21$, $p = .01$). With the bias-corrected bootstrap simulation (10,000 replications), the indirect effect of COVID-19 information exposure on work withdrawal via death anxiety was positive (*Estimate* = .02, 95% CI [.006, .037]) and the indirect effect of information exposure on helping behavior via generativity-based death reflection was positive (*Estimate* = .03, 95% CI [.008, .056]), which supported Hypotheses 1 and 2.

The interaction effect between COVID-19 information exposure and internal CSR on death anxiety was significant ($B = -.08$, $p = .04$). Figure 2 illustrated that the relationship between COVID-19 information exposure and death anxiety was stronger for employees who perceived lower internal CSR ($B = .19$, $p = .00$) vs. higher ($B = .04$, $p = .44$). The indirect effect of COVID-19 information exposure on work withdrawal via death anxiety was stronger (difference = -.02, 95% CI [-.055, -.005]) when internal CSR was lower (*Estimate* = .03, 95% CI [.011, .058]) vs. higher (*Estimate* = .01, 95% CI [-.005, .026]), supporting Hypotheses 3a and 3b. External CSR did not moderate the relationship between COVID-19 information exposure and death reflection ($B = .03$, $p = .51$), nor the indirect effect of information exposure on helping behavior via death reflection (difference = .01, 95% CI [-.015, .051]). Hypotheses 4a and 4b were not supported.

While Study 1 provides initial support to our hypothesized model, several limitations

exist. First, we did not control for individual differences (e.g., trait anxiety, neuroticism, and need for information) that might influence information exposure and death anxiety (Lee & Hawkins, 2016; Pradhan et al., 2020; Sliter et al., 2014). Second, COVID-19 information exposure might be better captured by a multi-item scale, rather than the 2-item scale. Thus, we collected additional data to validate this 2-item scale (see Appendix C). We also conducted Study 2 to address these limitations and to affirm the robustness and generalizability of Study 1 findings.

Study 2

Method, Results, and Discussion

Participants, procedure, and measures. We recruited participants from Prolific Academic, a UK online survey platform, and compensated them £3.9/person for participating in our research. All participants were full-time employees living in the UK. Participants completed the demographic questions and measures of all the studied variables at Time 1 ($N_{T1} = 423$). After one-week, they responded to measures of mediators and outcomes at Time 2 ($N_{T2} = 391$). Following the data scrutinization approach of Study 1, we received 382 valid responses (90% response rate). Participants were on average 37.3 years old ($SD = 10.4$), had 7.1 years of organizational tenure ($SD = 6.4$), were 58% female, and 74% of them had college or above education. Participants were from different industries, such as professional services, education, health care, and government. We used the same measures as in Study 1 except for COVID-19 information exposure, which was assessed with a four-item scale (Hornik et al., 2013). We used existing scales to measure the three additional control variables: trait anxiety (11-item; Spielberger, 1989), neuroticism (8-item; Saucier, 1994), and need for information (2-item; Huurne & Gutteling, 2008).

Table 3 shows the correlations among the study variables. We used the same parceling approach in Study 1 to perform confirmatory factor analysis. The 7-factor CFA model fit the data

well, $\chi^2(209) = 467.97, p = .00$, CFI = .95, SRMR = .05, RMSEA = .06. All parcels loaded significantly on the corresponding constructs (standardized factor loadings ranging from .61 to .95). The path analysis results were summarized in Table 4 and Figure 3, with T1 COVID-19 information exposure as the predictor, T1 CSR measures as the moderators, T2 death anxiety and death reflection as the mediators, and T2 work withdrawal and helping as outcomes. As shown in Table 4, COVID-19 information exposure was positively related to death anxiety ($B = .12, p = .007$) and death reflection ($B = .11, p = .017$). Death anxiety was positively related to work withdrawal ($B = .12, p = .02$), and generativity-based death reflection was positively related to helping ($B = .36, p = .00$)³. Further, the indirect effect of COVID-19 information exposure on work withdrawal via death anxiety (*Estimate* = .01, 95% CI [.004, .031]), and the indirect effect of information exposure on helping via generativity-based death reflection (*Estimate* = .04, 95% CI [.014, .071]) were both significant, supporting Hypotheses 1 and 2.

Internal CSR buffered the relationship between COVID-19 information exposure and death anxiety ($B = -.09, p = .02$). Figure 4 showed that the positive relationship between COVID-19 information exposure and death anxiety was stronger when perceiving lower ($B = .20, p = .00$) vs. higher internal CSR ($B = .04, p = .51$). The indirect effect of COVID-19 information exposure on work withdrawal via death anxiety was stronger (difference = -.02, 95% CI [-.048, -.004]) when internal CSR was lower (*Estimate* = .02, 95% CI [.007, .050]) vs. higher (*Estimate* = .00, 95% CI [-.004, .020]), supporting Hypotheses 3a and 3b. External CSR did not moderate the effect of COVID-19 information exposure on generativity-based death reflection ($B = .01, p = .90$), nor the indirect effect of COVID-19 information exposure on helping via death reflection (difference = .00, 95% CI [-.049, .066]). Hypotheses 4a and 4b were not supported⁴. In sum, Study 2 addressed Study 1's limitations and replicated Study 1's findings⁵.

General Discussion

Theoretical Implications

Our findings offer three theoretical implications. First, our research extends prior research invoking TMT to explain various workplace phenomena. While TMT sheds light on individuals' negative reactions towards their exposure to a morality cue, our integration of TMT with Generativity Theory provides a more complete picture of individuals' negative *and* positive responses toward their COVID-19 information exposure. Prior research that only invoked TMT might have missed the opportunity to capture the silver lining during this challenging time. As such, integrating TMT with Generativity Theory offers theoretical richness in expanding our knowledge regarding how employees may engage in substantially different behaviors when exposed to COVID-19 related information.

In addition, few studies explored the potential positive effects of mortality salience (see Appendix A). The mechanism that accounts for the positive impact of mortality salience is also unclear. In the present research, we invoke Generativity Theory, which enables us to identify generativity-based death reflection as an additional mechanism that explains why employees may engage in positive behaviors as a result of their information exposure to a mortality cue (e.g., COVID-19). Thus, our research advances prior research on mortality salience through documenting the different psychological mechanisms that connect exposure to a mortality cue with both negative and positive behaviors at work.

Second, as shown in Appendix A, prior research has predominantly focused on individual differences as potential boundary conditions around the effect of individuals' experienced mortality salience. In our studies, we focused on firm CSRs as the contextual moderators that have implications for the psychological mechanisms suggested by the TMT and Generativity Theory. Such focus has allowed us to move beyond individual differences and highlighted the importance to consider organizational actions in future research on mortality salience.

Our hypothesis regarding the moderation role of external CSR was not supported. While prior research has documented the important role of external CSR in retaining employees after

they were exposed to mortality cues (e.g., 9/11 terror attacks) and strived to find meaning in their work (Carnahan et al., 2017), we did not find that external CSR accentuated employees' generative contemplation of meaning in their life (death reflection) when exposed to COVID-19 information. It is possible that employees were not directly involved or participated in these actions targeting to benefit the external stakeholders of the company. As a result, these firm actions may be less impactful in underscoring the generative values for employees as they reflect on death when exposed to COVID-19 information. It could also be possible that the participants' companies engaged in a wider variety of external CSR initiatives (e.g., conserving resources and energy), and not all of these actions are directly related to forming connections and making a contribution per se. Therefore, the moderation effect of external CSR may be diluted. Future research should explore whether organization's advertisement of and employees' participation in external CSR activities serve as potential moderators.

Third, our findings also extend research on individuals' death anxiety and reflection. In terms of the antecedents and consequences of individuals' death anxiety, prior research has primarily focused on mortality cues that are prominent in certain occupations (e.g., health care professionals, firefighters) and investigated how employees who are exposed to mortality cues when carrying out their job responsibilities may experience death anxiety, which in turn can affect their work-related reactions (e.g., reduced engagement, increased burnout, absenteeism) (e.g., Brady, 2015; McKenzie et al., 2017; Parry, 2011). Our research extends this literature from occupation-specific mortality cues to general mortality cues that impose death threat to everyone, pointing to the theoretical importance to study the effects of exposure to general mortality cues on employees who may not encounter death or mortality cues as part of their work.

As for death reflection, prior research has primarily examined the occurrence of individuals' death reflection when they had "near-death" experiences. Specifically, prior research has either primed individuals' death reflection by asking the participants to image themselves

experiencing the near-death events depicted in a scenario (e.g., Cozzolino et al., 2004) or explored individuals' reflection on death among those who were suffering from life-threatening diseases (e.g., AIDS, cancer) (e.g., Pierson et al., 2002). These studies revealed that individuals are likely to experience death reflection when they had "near-death" experience and their death reflection may result in their intrinsic unselfish behavior (Cozzolino et al., 2004), enhanced gratitude (Frias et al., 2011), and identity integration (Blackie et al., 2016). Our research extends this literature in the following ways. First, our findings showed employees can engage in death reflection even when they were exposed to information on a mortality cue (COVID-19) that triggered the abstract notion of death (rather than having a concrete or personal experience). Second, our research empirically documents that employees' death reflection may incorporate generative values, which supports arguments proposed in prior research (Tomer & Eliason, 1996), but has not been systematically examined. Third, our research expanded the nomological network of employee death reflection and supported its positive association with helping behaviors at work. In summary, bridging literatures on TMT and Generativity Theory, and considering a wider-range of death-related reactions when employees were exposed to COVID-19 information, our study sheds light on the death anxiety and reflection research.

Practical Implications

During an unprecedented public health crisis such as the COVID-19 pandemic, organizations need to be able to both understand and address the challenges faced by their employees. Our research identified employees' death-related reactions as important pathways through which information exposure to a global health crisis may have implications for work behaviors. Understanding the way in which death anxiety and death reflection influence employee behaviors can offer organizations with possible ways to intervene to not only reduce the negative effects of COVID-19, but also enhance the silver lining of the pandemic.

Our research findings revealed that an organization's internal CSR practices play

important roles in attenuating the effect of employees' COVID-19 information exposure on their work withdrawal via death anxiety. These findings suggest that offering support and protection to employees during the COVID-19 pandemic may not only lead to direct benefits (e.g., higher perceived support), but also have downstream effect via helping employees manage their maladaptive death-related reactions, and subsequently reduce employees' work withdrawal. Organizations should develop and implement practices that demonstrate their care and respect for their employees (e.g., employee recognition program, flexible work arrangements; Chang et al., in press) to facilitate employee coping with the threat brought up by COVID-19.

Although the moderation role of external CSR was not supported, we still found the positive effect of exposure to COVID-19 information on employee helping via generativity-based death reflection. Organizations may want to foster more workplace helping behaviors by directly tapping into employees' generativity-based death reflection. For example, organizations can convey generative values via internal communications (e.g., newsletters) or social mindfulness training that emphasizes social connections (Jamieson & Tuckey, 2017; Van Doesum et al., 2013) to emphasize the importance of connecting with others both within and outside the organization, or to remind employees about the contributions and meaningfulness of their work. These programs may help cultivate employees' generativity-based death reflection and their subsequent helping behaviors at work.

Limitations and Future Directions

The current research is subject to several limitations, which also point to future directions. First, all measures were self-reported in our studies, rendering our findings prone to common method bias (Podsakoff et al., 2003). However, we assessed our key study variables at different time points. This can to some extent reduce the concern for common method bias. Further, we tested and found a moderation effect, which is less likely to be explained by common method bias (Siemens et al., 2010). Nonetheless, future research can use other reports (e.g.,

supervisor-rated withdrawal and helping) to reduce common method bias. In addition, we did not have a fully cross-lagged design. Future research should adopt a fully cross-lagged design with longer intervals to control autoregressive effects when replicating our findings.

Second, although our response rate of Study 1 is consistent with other survey-based studies on mortality cues (Sliter et al., 2014) or generativity (Kooij & Voorde, 2011), and the final sample size provides us sufficient statistical power to test the hypothesized model, the attrition rate across our three-wave data collection was fairly high. It is important to note that we compared the means of our key study variables between the final sample and participants who provided partial data⁶. These analyses revealed that our final sample did not differ substantially on most of our study variables from those who withdrew from this research.

Third, our studies considered organizational actions that may serve as boundary conditions around the effect of employees' COVID-19 information exposure. Other individual factors, such as individuals' aging experience (Maxfield et al., 2007) and time perspective (Rappaport et al., 1993), may also play a role in qualifying the links between COVID-19 information exposure and employees' death anxiety and reflection. Future research may explore the potential moderation effects of these individual differences on the relationships between COVID-19 information exposure and death anxiety and reflection.

Last, while our integration of TMT and Generativity Theory has enabled us to make several contributions to this literature, other theories may be applicable to explain employees' responses towards their COVID-19 information exposure. Research on stress and coping (Lazarus & Folkman, 1984) may offer insights to interpreting employees' experiences when they face COVID-19 and future studies can adopt this model to explain employees' reactions.

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Footnotes

¹ We selected GTA because GTA is one of the most populous and multicultural regions in North America with an estimated population of 7 million (Ontario Government, 2019). The population in GTA is also very diverse with people from various racial groups (Statistics Canada, 2019). We believe that the racial/ethnic diversity of our participants enables our findings to be more generalizable to the global population that is impacted by COVID-19.

² All alternative 6-factor models, in which parcels from two factors were loaded onto one factor, had inferior model fit than the 7-factor model ($136.5 \leq \Delta\chi^2_s [\Delta df = 6] \leq 632.6, ps < .001$).

³ Although we did not hypothesize the relationship between death anxiety and helping behavior, we did find that death anxiety was negatively related to helping behavior ($B = -.18, p = .002$), which was consistent with prior research on anxiety and helping behaviors (e.g., Calderwood et al., 2018). This finding, however, differs from those reported in Hu et al. (2020) because the correlations between death anxiety and prosocial behaviors were positive in their studies. This difference warrants attention, and we call for future research to further investigate the relationship between death anxiety and helping or prosocial behaviors.

⁴ When controlling for Time 1 mediators and outcomes in our analysis, the Time 1 predictor's effects did not hold due to the high autocorrelations between the Time 1 and Time 2 mediators and outcomes (ranging from .70 to .90, $ps = .00$). This makes sense given that they were assessed only one week apart (i.e., the high autocorrelations likely reflected one-week test-retest reliabilities). That being said, if we replace Time 2 mediators and outcomes in our Study 2 model with Time 1 mediators and outcomes or replacing Time 2 mediators with Time 1 mediators in our model (but keep Time 2 outcomes), the hypothesis testing results were virtually the same as we reported in the manuscript, further suggesting that Time 1 and Time 2 measures captured the same underlying states.

⁵ Removing the three additional control variables (i.e., trait anxiety, neuroticism, and need for information) would not change the hypothesis testing results of Study 2. The findings were still consistent with findings in Study 1.

⁶ We did not find significant differences between our final sample and those missing Time 3 data on their death anxiety and generativity-based death reflection, nor did we find differences between our final sample and those completing Time 1 survey only in their reports of perceived internal and external CSR. Nevertheless, the means of COVID-19 information exposure between the final sample ($M = 3.51, SD = .96, N = 278$) and participants who completed Time 1 survey only ($M = 3.38, SD = .85, N = 938$) were significantly different ($t [415.09] = 2.10, p = .04$). This significant mean difference, however, is only of small effect size ($d = 0.14$) and may be attributed to the unbalanced sample sizes across the two groups (Rusticus & Lovato, 2014).

Table 1*Means, Standard Deviations, and Correlations Among Variables of Study 1*

Variables	M	SD	1	2	3	4	5	6	7	8	9	10
1. COVID-19 information exposure (T1)	3.51	0.96	.68^a									
2. Death anxiety (T2)	3.05	0.57	.18**	.83								
3. Generativity-based death reflection (T2)	3.47	0.67	.16**	.24***	.86							
4. Work withdrawal (T3)	1.74	0.59	-.02	.11	-.08	.87						
5. Helping behaviors (T3)	3.59	0.75	.02	-.04	.16**	-.02	.88					
6. Internal CSR (T1)	3.72	0.91	.06	-.09	.09	-.07	.11	.89				
7. External CSR (T1)	3.44	0.89	.10	-.14*	.06	-.05	.17**	.74***	.91			
8. Age (T1)	48.15	11.34	.10	-.01	.03	-.25***	-.06	.02	-.01	-		
9. Gender ^b (T1)	1.47	0.50	.02	.14*	.06	-.07	.09	.04	-.07	-.21***	-	
10. Suspected COVID-19 cases of the local township ^c (T1)	4.89	2.40	.13*	.05	-.05	.01	.06	.04	.01	.06	-.03	-
11. Confirmed COVID-19 cases of the local township ^d (T1)	5.23	2.21	.14*	-.03	-.10	.05	.09	.01	-.01	-.00	-.02	.78***

Note. $N=278$. Cronbach's alpha coefficients were reported along the diagonal in bold.

a. Following Eisinga et al. (2013), we used the Spearman-Brown formula to estimate the reliability of this two-item scale.

b. Gender: 1= male; 2= female.

c. Suspected COVID-19 cases of the local township: 1 = None; 2= 1-20 cases; 3= 21-40 cases; 4 = 41-60 cases; 5= 61-80 cases; 6=81-100 cases; 7 = 101 or more cases.

d. Confirmed COVID-19 cases of the local township: 1 = None; 2= 1-20 cases; 3= 21-40 cases; 4 = 41-60 cases; 5= 61-80 cases; 6=81-100 cases; 7 = 101 or more cases.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2
Results for Path Analyses of Study 1

Independent Variables	Model 1 (mediation model)				Model 2 (full model)			
	Death anxiety (T2)	Generativity-based death reflection (T2)	Work withdrawal (T3)	Helping behaviors (T3)	Death anxiety (T2)	Generativity-based death reflection (T2)	Work withdrawal (T3)	Helping behaviors (T3)
Gender (T1)	.16* (.07)	.09 (.08)	-.16* (.07)	.12 (.09)	.15* (.07)	.10 (.08)	-.16* (.07)	.12 (.09)
Age (T1)	.00 (.00)	.00 (.00)	-.01*** (.00)	-.00 (.00)	.00 (.00)	.00 (.00)	-.01*** (.00)	-.00 (.00)
Suspected COVID-19 cases of the local township (T1)	.05* (.02)	.02 (.02)	-.01 (.03)	.00 (.03)	.05* (.02)	.02 (.02)	-.01 (.03)	.00 (.03)
Confirmed COVID-19 cases of the local township (T1)	-.05* (.02)	-.05* (.03)	.02 (.03)	.04 (.04)	-.06* (.02)	-.05 (.03)	.02 (.03)	.04 (.04)
COVID-19 information exposure (T1)	.11** (.04)	.12** (.04)	-.00 (.04)	-.00 (.05)	.11** (.04)	.11** (.04)	-.00 (.04)	-.00 (.05)
Internal CSR (T1)	-	-	-	-	-.07* (.03)	-	-	-
External CSR (T1)	-	-	-	-	-	.05 (.05)	-	-
COVID-19 information exposure × Internal CSR	-	-	-	-	-.08* (.04)	-	-	-
COVID-19 information exposure × External CSR	-	-	-	-	-	.03 (.05)	-	-
Death anxiety (T2)	-	-	.16** (.06)	-.12 (.09)	-	-	.16** (.06)	-.12 (.09)
Generativity-based death reflection (T2)	-	-	-.09 (.05)	.21* (.08)	-	-	-.09 (.05)	.21* (.08)
R ²	.07	.05	.10	.05	.10	.05	.10	.05

Note. N=278. Values in parentheses are *standard errors*.

* $p < .05$. ** $p < .01$.

Table 3*Means, Standard Deviations, and Correlations Among Variables of Study 2*

Variables	M	SD	1	2	3	4	5	6
1. COVID-19 information exposure (T1)	3.12	0.83	.70					
2. Death anxiety (T2)	3.14	0.69	.18***	.86				
3. Generativity-based death reflection (T2)	3.85	0.70	.18***	.30***	.83			
4. Work withdrawal (T2)	2.42	0.66	-.02	.11*	.00	.81		
5. Helping behaviors (T2)	3.98	0.71	.22***	-.02	.35***	-.08	.90	
6. Internal CSR (T1)	3.73	0.91	.19***	-.02	.26***	-.14**	.35***	.81
7. External CSR (T1)	3.45	1.01	.16**	-.00	.18**	-.05	.25***	.61***
8. Trait anxiety (T1)	2.21	0.79	-.02	.36***	.03	.30***	-.05	-.10*
9. Neuroticism (T1)	3.40	1.13	-.01	.33***	-.05	.30***	-.18***	-.16**
10. Need for information (T1)	3.50	0.90	.29***	.16**	.21***	-.02	.20***	.22***
11. Age (T1)	37.25	10.40	.13*	-.08	-.07	-.25***	-.06	-.01
12. Gender ^a (T1)	1.59	0.50	.08	.19***	.22***	-.09	.10	.10
13. Suspected COVID-19 cases of the local township ^b (T1)	4.85	2.24	.02	.02	.07	.05	-.03	.09
14. Confirmed COVID-19 cases of the local township ^c (T1)	4.68	2.26	-.02	.02	.06	.00	-.06	.12*

Note. $N=382$. Cronbach's alpha coefficients were reported along the diagonal in bold.

a. Gender: 1= male; 2= female.

b. Suspected COVID-19 cases of the local township: 1 = None; 2= 1-20 cases; 3= 21-40 cases; 4 = 41-60 cases; 5= 61-80 cases; 6=81-100 cases; 7 = 101 or more cases.

c. Confirmed COVID-19 cases of the local township: 1 = None; 2= 1-20 cases; 3= 21-40 cases; 4 = 41-60 cases; 5= 61-80 cases; 6=81-100 cases; 7 = 101 or more cases.

d. Following Eisinga et al. (2013), we used the Spearman-Brown formula to estimate the reliability of this two-item scale.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 3

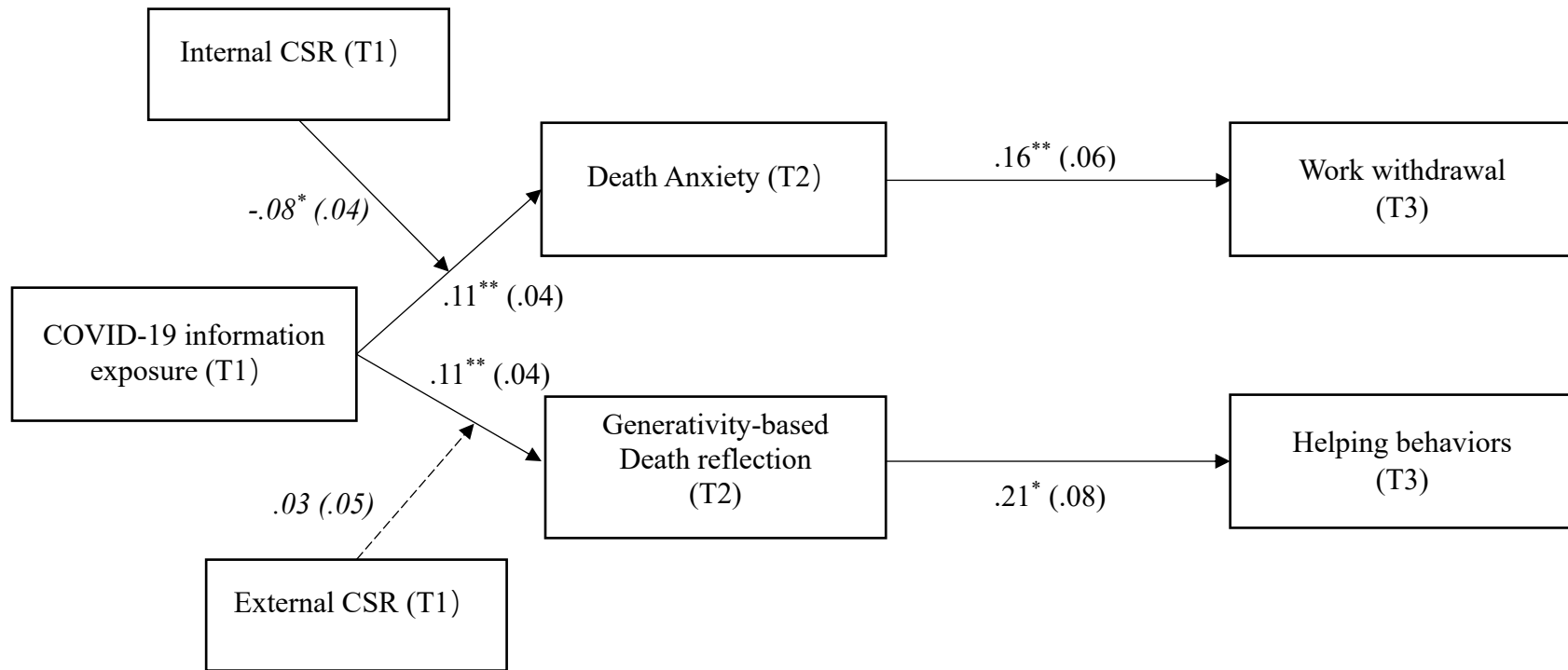
Continued.

Variables	7	8	9	10	11	12	13
1. COVID-19 information exposure (T1)							
2. Death anxiety (T2)							
3. Generativity-based death reflection (T2)							
4. Work withdrawal (T2)							
5. Helping behaviors (T2)							
6. Internal CSR (T1)							
7. External CSR (T1)	.90						
8. Trait anxiety (T1)	-.07	.95					
9. Neuroticism (T1)	-.09	.58***	.86				
10. Need for information (T1)	.17**	.05	-.06	.56^d			
11. Age (T1)	.00	-.26***	-.15**	-.15**	-		
12. Gender ^a (T1)	.10	.05	.13*	-.01	-.02	-	
13. Suspected COVID-19 cases of the local township ^b (T1)	.07	.06	.01	.05	-.08	-.12*	-
14. Confirmed COVID-19 cases of the local township ^c (T1)	.08	.04	.03	.01	-.06	-.08	.88***

Table 4
Results for Path Analyses of Study 2

Independent Variables	Model 1 (mediation model)				Model 2 (full model)			
	Death anxiety (T2)	Generativity-based death reflection (T2)	Work withdrawal (T2)	Helping behaviors (T2)	Death anxiety (T2)	Generativity-based death reflection (T2)	Work withdrawal (T2)	Helping behaviors (T2)
Gender (T1)	.20** (.06)	.32*** (.07)	-.14 (.07)	.04 (.07)	.21** (.06)	.31*** (.07)	-.14 (.07)	.04 (.07)
Age (T1)	.00 (.00)	-.00 (.00)	-.02*** (.00)	-.01 (.00)	.00 (.00)	-.00 (.00)	-.02*** (.00)	-.01 (.00)
Suspected COVID-19 cases of the local township (T1)	.00 (.03)	.02 (.03)	.05 (.03)	.01 (.03)	.00 (.03)	.02 (.03)	.05 (.03)	.01 (.03)
Confirmed COVID-19 cases of the local township (T1)	.00 (.03)	.01 (.03)	-.05 (.03)	-.03 (.03)	.01 (.03)	.00 (.03)	-.05 (.03)	-.03 (.03)
Need for information (T1)	.09* (.04)	.12** (.04)	-	-	.10* (.04)	.11* (.04)	-	-
Trait anxiety (T1)	.21*** (.06)	.05 (.05)	-	-	.20*** (.06)	.06 (.05)	-	-
Neuroticism (T1)	.11** (.04)	-.07 (.04)	-	-	.11** (.04)	-.07 (.04)	-	-
COVID-19 information exposure (T1)	.12** (.04)	.11* (.04)	-.01 (.04)	.16** (.05)	.12** (.04)	.10* (.04)	-.01 (.04)	.16** (.05)
Internal CSR (T1)	-	-	-	-	-.06 (.04)	-	-	-
External CSR (T1)	-	-	-	-	-	.07 (.04)	-	-
COVID-19 information exposure × Internal CSR	-	-	-	-	-.09* (.04)	-	-	-
COVID-19 information exposure × External CSR	-	-	-	-	-	.01 (.05)	-	-
Death anxiety (T2)	-	-	.12* (.05)	-.18** (.06)	-	-	.12* (.05)	-.18** (.06)
Generativity-based death reflection (T2)	-	-	-.03 (.05)	.36*** (.07)	-	-	-.03 (.05)	.36*** (.07)
R^2	.22	.12	.09	.18	.23	.13	.09	.18

Note. $N=382$. Values in parentheses are *standard errors*. * $p < .05$. ** $p < .01$. *** $p < .001$.

Figure 1*Results of Hypothesized Moderated-Mediation Model (Study 1)*

$N=278$. The dashed line denotes non-significant relationship. Values in parentheses are *standard errors*.

* $p < .05$. ** $p < .01$.

Figure 2

Simple Slopes Between COVID-19 Information Exposure and Death Anxiety at Different Levels of Internal CSR (Study 1)

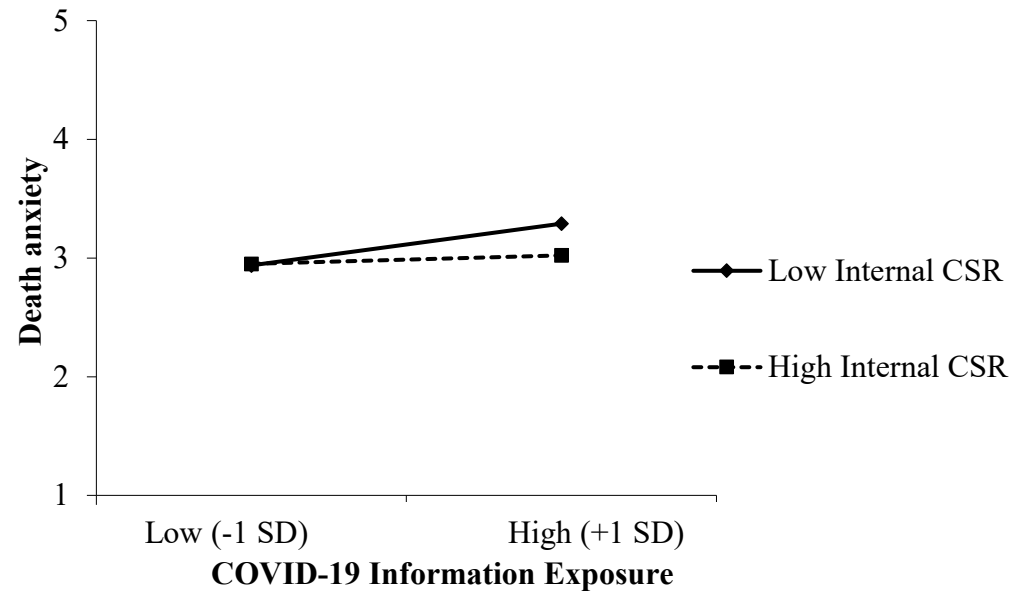
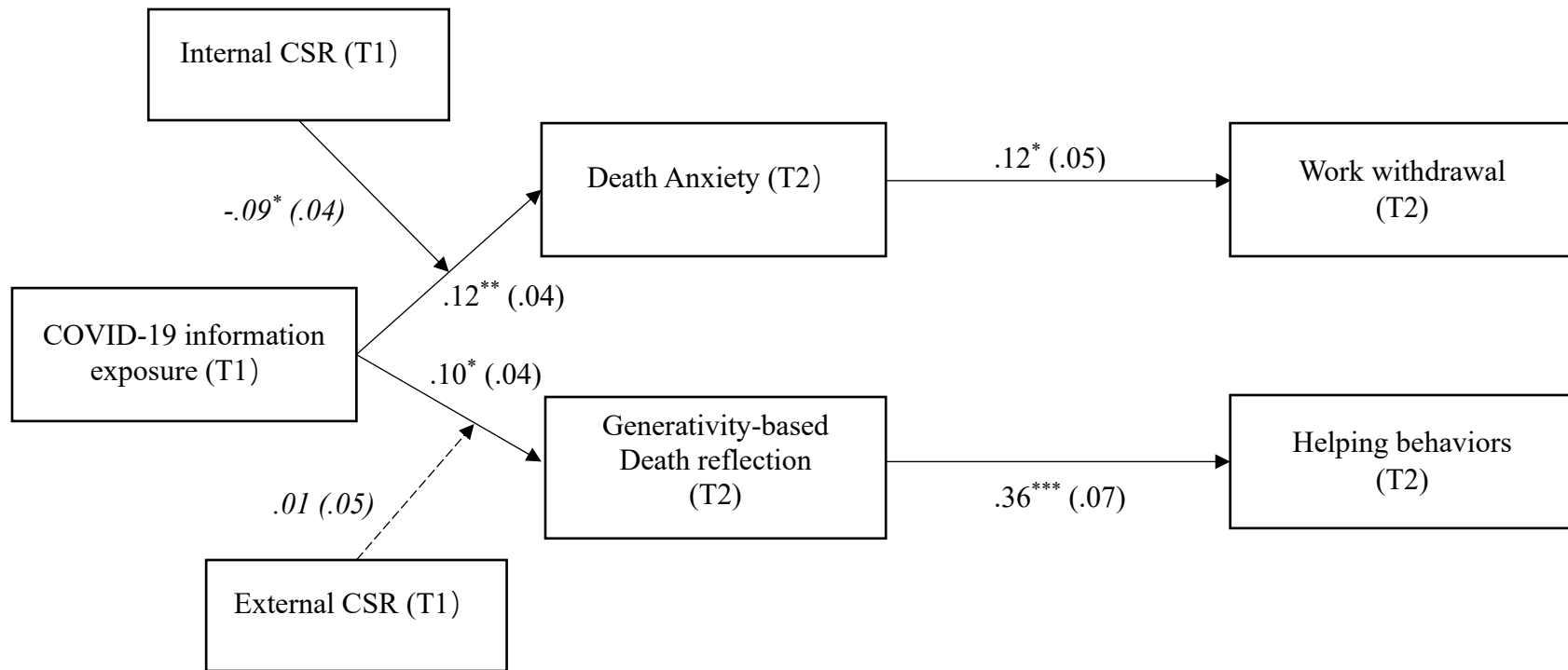


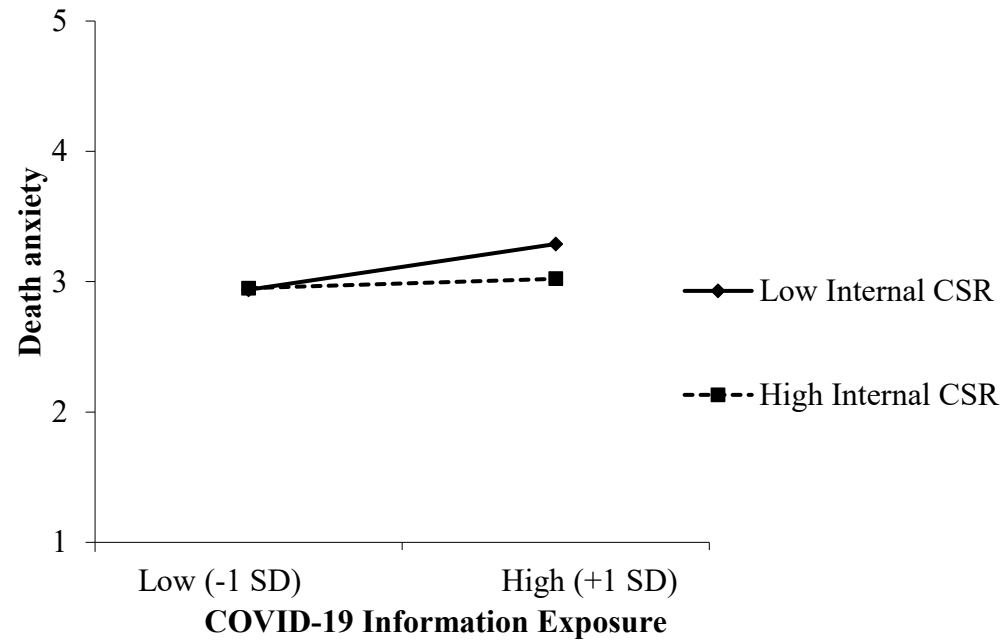
Figure 3*Results of Hypothesized Moderated-Mediation Model (Study 2)*

$N=382$. The dashed line denotes non-significant relationship. Values in parentheses are *standard errors*.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Figure 4

Simple Slopes Between COVID-19 Information Exposure and Death Anxiety at Different Levels of Internal CSR (Study 2)



Appendix A

Terror Management Theory: Literature Review and Research Gaps

We reviewed previous studies that have used terror management theory (TMT) to explain various workplace phenomena. The objectives of this review are to identify research gaps and demonstrate how our current research contributes to organizational research invoking TMT.

Literature Search, Screening, and Coding

Two authors of the research team conducted a literature search and screening to identify previous studies that have used TMT to explain workplace phenomena. First, the authors conducted a literature search on PsycINFO, PsycArticles, Web of Science, and Google Scholar with the following keywords: terror management, terror management theory, TMT and organizations, TMT and work, TMT and workers, TMT and workplace, and death anxiety. This search process resulted in 138 articles. Then the authors checked the references of a TMT meta-analysis article (Burke et al., 2010) and did not find additional relevant papers.

Further screening the 138 articles, only empirical studies that invoked TMT to examine workplace phenomena were included for our purpose. Studies that examined phenomena beyond the organizational context were excluded (e.g., non-workplace phenomena, Taubman-Ben-Ari & Noy, 2010; not including empirical studies, Pyszczynski et al., 2021). In addition, studies were excluded if TMT was not used to explain the studied phenomena (Arena, 2020). As a result of this literature search and screening, 26 articles were identified and listed in Table A1. The same two authors then independently coded these 26 articles and summarized the following information: (a) antecedent(s) and type of mortality cue; (b) whether the effect of mortality cue was detrimental (yes/no); (c) whether the effect of mortality cue was beneficial (yes/no); (d) theorized underlying mechanisms; (e) whether directly examined underlying mechanisms (yes/no); (f) moderator(s); (g) whether any organizational actions/practices were examined as a

moderator (yes/no); (h) use of actual employees (yes/no); and (i) research setting (lab vs. field). Any coding discrepancies were resolved through discussion among the author team.

Research Gaps and Contributions of the Current Research

Based on the literature review, we identified the following research gaps in this line of inquiry. First, previous research primarily investigated individuals' negative reactions when they encountered the notion of death or faced mortality salience. As shown in Table A1 below, among the 26 articles, 21 of them investigated the effects of mortality salience on individuals' reactions (the remaining 5 articles did not examine mortality salience as an antecedent). Among them, 16 (out of 21) articles examined the detrimental impact of mortality salience on individuals. Only 2 articles reported the potential positive impact of mortality salience¹. This suggests that the potential positive outcomes of individuals' experienced mortality salience have been overlooked in prior research, especially those outcomes that may occur in the workplace. Addressing this research gap, our research integrates TMT with Generativity Theory to identify both individuals' negative and positive psychological and behavioral reactions towards their exposure to information on a mortality cue (i.e., COVID-19). Such integration allows us to advance our understanding of how individuals can be impacted by their exposure to COVID-19 information in different ways, which have great implications for organizational functioning.

Second, for the 2 articles that reported positive outcomes of mortality salience, the underlying mechanisms remained unclear. Belmi and Pfeffer (2016), for example, found that individuals' experienced mortality salience increased their prosocial behaviors. However, they did not propose or examine any mechanisms that can explain the effect of mortality salience on prosocial behavior. Hu et al. (2020) found positive indirect effect of COVID-19 triggered mortality salience on prosocial behaviors via state anxiety (in Studies 1 and 2) and death anxiety (in Study 3). However, this positive indirect effect of mortality salience only existed when

¹ Three articles reported neutral consequences of individuals' exposure to mortality salience (e.g., preference for male vs. female leader, Hoyt et al., 2009).

participants experienced high servant leadership. This positive indirect effect was not significant when servant leadership was low. Thus, the mechanism that accounts for the positive impact of mortality salience remains elusive. In the present research, we invoke Generativity Theory along with TMT to propose and empirically examine why employees may engage in substantially different behaviors when exposed to COVID-19 information. Our theoretical integration enables us to identify generativity-based death reflection as an additional mechanism that explains why employees may engage in positive behaviors as a result of their information exposure to a mortality cue (e.g., COVID-19). Thus, our research advances prior research on mortality salience through documenting the different psychological mechanisms that connect information exposure to a mortality cue with employees' negative and positive behaviors at work.

Third, most of these studies considered individual differences as potential boundary conditions for the effect of individuals' experienced mortality salience. As shown in Table A1, among the 17 articles that proposed moderator(s) qualifying the effects of mortality salience, 13 of them examined individual difference moderators. For example, previous research has revealed that mindfulness, negative affect, and emotional stability could moderate the effects of mortality salience (De Clercq et al., 2021; Raja, 2020; Van der Zee, & Van der Gang, 2007). To date, no research has investigated the role of organizational actions in qualifying individuals' reactions towards mortality salience. In our studies, we focused on firm CSRs as the moderators, because internal and external CSR practices can have important implications for the premises of TMT and Generativity Theory. In short, our selection of moderators was guided by theory, which allows us to move beyond individual differences and consider firm actions as important work contexts that bound the effects of employees' experienced death saliency on their reactions. This highlights the importance to consider organizational actions in future research on mortality salience.

Fourth, as shown in Table A1, among the 21 articles that considered mortality salience

as the antecedent, 14 manipulated mortality salience in lab settings. As such, the lack of psychological fidelity in lab settings to a large degree limits the internal and external validity of the documented findings. Indeed, few studies have examined employees' reactions towards a real-life morality cue (for an exception, see Wolf et al., 2020). From a methodological standpoint, our research focused on a mortality cue that is currently influencing all of us and investigated the effect of employees' information exposure to this morality cue (i.e., COVID-19) among full-time working adults living and working in different countries. Our research design enhances both the theoretical and practical value of our research and enables us to generalize our findings to various work settings.

In summary, through integrating TMT with Generativity Theory, we advance the TMT literature in multiple ways. Specifically, we have documented two underlying mechanisms that explain why COVID-19 information exposure may influence employees in different ways. We also identified both negative and positive behaviors (i.e., work withdrawal and helping behaviors) employees may engage in as a result of their COVID-19 information exposure. In addition, we have also identified new boundary conditions around the effect of employees' COVID-19 information exposure, which points to the necessity to consider the role of organization in future TMT and mortality salience research.

Table A1.**Summary of Previous Empirical TMT Studies**

#	Study	Antecedent(s) and type of mortality cue	Whether the effect of mortality cue was detrimental	Whether the effect of mortality cue was beneficial	What are the theorized underlying mechanisms	Whether directly examined underlying mechanisms	Moderator(s)	Whether any organizational actions/practices were examined as a moderator	Use of actual employees	Lab vs. Field
1	Belmi & Pfeffer (2016) (Study 2B)	Antecedent: Mortality salience. Type: Experimental priming.	No	Yes	nil.	N/A	Gender	No	Yes	Lab
2	Chen (2016)	Antecedent: Mortality salience. Type: Experimental priming.	No	No	Need for security, belongingness, meaning, self-esteem	No	Core self-evaluations, needs-supplies fit, value congruence	No	Yes	Lab
3	Chonody et al. (2014)	Antecedents: Death anxiety. Type: N/A	N/A	N/A	nil.	N/A	nil.	No	Mixed (students and staff)	Field
4	Cohen et al. (2004)	Antecedent: Mortality salience. Type: Experimental priming.	No (neutral)	No	Death anxiety	No	nil.	No	No	Lab
5	Cui et al. (2020)	Antecedent: Mortality salience. Type: Experimental priming COVID-19 pandemic condition.	No (proposed but not supported)	No	nil.	N/A	S1: Type of creative task; S2: type of creative task, personal search for meaning	No	No	Lab
6	De Clercq et al. (2017)	Antecedent: Threats of terrorism (mortality salience). Type: Terrorism.	Yes	No	Job-related anxiety	Yes	Religiousness	No	Yes	Field
7	De Clercq et al. (2021)	Antecedent: Fear of COVID-19. Type: COVID-19 pandemic.	Yes	No	Economic concerns psychological distress	Yes	Mindfulness	No	Yes	Field
8	Dechesne et al. (2000)	Antecedent: Mortality salience. Type: Experimental priming.	Yes	No	nil.	N/A	S1: Need for closure, No identification; S2: Need for closure, permeability of group boundaries, identification	No	No	Lab

9	Frazier (2020)	Antecedent: Mortality salience. Type: Experimental priming.	Yes	No	nil.	N/A	Perceived subjective social status, work meaning, social connectedness, self-actualization nil.	No	Yes	Lab
10	Goethals & Ziegelmayer (2021)	Antecedent: Threat of unemployment (similar to mortality salience). Type: Unemployment.	Yes	No	Self-esteem, faith in worldview, attachment security	Yes		No	Yes	Lab
11	Hoyt et al. (2009)	Antecedent: Mortality salience. Type: Experimental manipulation.	No (neutral)	No	Death anxiety	No	Gender	No	No	Lab
12	Hu et al. (2020)	Antecedent: Mortality salience. Type: COVID-19 pandemic.	Yes	Yes (conditional)	State anxiety, death anxiety	Yes	Servant leadership	No	Yes	S1: Field; S2&3: Lab
13	Jonas et al. (2011)	Antecedent: Mortality salience. Type: Experimental manipulation.	No (neutral)	No	nil.	N/A	S1: Organizational commitment; S2: Symbol or organizational culture (central vs. distal)	No	Yes	Lab
14	Kinnamon et al. (2018)	Antecedent: Firm failure (similar to mortality salience). Type: Firm failure.	No (proposed but not supported)	No	Anxiety	No	Self-efficacy	No	Yes	Lab
15	Lee & Kim (2020)	Antecedent: Collectivism. Type: N/A	N/A	N/A	Psychological closeness	Yes	Mortality salience	No	Yes	Lab
16	Luta (2021) (Study 2)	Antecedent: Mortality salience. Type: Experimental manipulation.	No (proposed but not supported)	No	nil.	N/A	Convenience	No	Yes	Lab
17	McCabe & Daly (2018)	Antecedent: Unemployment (similar to mortality cue). Type: Unemployment.	Yes	No	nil.	N/A	S2: Presence of a close relationship, job market health S3a: Presence of a close relationship	No	Yes	Lab

18	Perach et al. (2019)	Antecedent: Creative achievement. Type: N/A	N/A	N/A	Anxiety	No	Mortality salience, creative goals	No	No	Lab
19	Raja et al. (2020)	Antecedent: Perceived threat of terrorism. Type: Terrorism.	Yes	No	Anxiety	No	Negative affect	No	No	Field
20	Segel-Karpas, & Bergman (2020)	Antecedent: Retirement anxiety (similar to mortality cue). Type: Retirement.	Yes	No	Death anxiety	Yes	nil.	No	Yes	Field
21	Shakil et al. (2020)	Antecedent: Psychological distress. Type: N/A	N/A	N/A	nil.	N/A	Work status	No	Mixed	Field
22	Trifiletti et al. (2017)	Antecedents: Mortality salience and burnout. Type: Experimental manipulation.	Yes	No	nil.	N/A	Delay manipulation	No	Yes	Field
23	Van den Bos & Miedema (2000)	Antecedent: Procedural justice. Type: N/A	N/A	N/A	nil.	N/A	Mortality salience	No	No	Lab
24	Van der Zee, & Van der Gang (2007)	Antecedents: Mortality salience and work team diversity. Type: Experimental manipulation.	Yes	No	nil.	N/A	Emotional stability, social initiative	No	No	Lab
25	Wolf et al. (2020)	Antecedent: Human donor remains (mortality salience). Type: Human donor remains.	Yes	No	Self-worth	Yes	nil.	No	No	Field
26	Yuan et al. (2018) (Study 4)	Antecedent: Mortality salience. Type: Occupation mortality salience.	Yes	No	nil.	N/A	Death reflection	No	Yes	Field

Note. N/A = not applicable. nil. = not provided.

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(TMT Literature Review)

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Appendix B

Measures of Our Study Variables

COVID-19 Information Exposure (Study 1):

(1 = Never; 2 = Seldom; 3 = Sometimes; 4 = Often; 5 = Frequently)

1. How frequently do you check out information about COVID-19 confirmed cases and death toll from newspapers, internet, TV and/or cell phone applications?
2. How frequently do you read COVID-19-related information online?

COVID-19 Information Exposure (Study 2):

(1 = Never; 2 = Seldom; 3 = Sometimes; 4 = Often; 5 = Frequently)

1. Think about the past 12 months, how frequently do you check the COVID-19 information from family, friends or co-workers?
2. Think about the past 12 months, how frequently do you check the COVID-19 information from television or radio?
3. Think about the past 12 months, how frequently do you check the COVID-19 information from newspapers, magazines or newsletters?
4. Think about the past 12 months, how frequently do you check the COVID-19 information from the internet?

External CSR:

(1 = strongly disagree; 5 = strongly agree)

1. Our company participates in activities which aim to control and minimize the spread of COVID-19.
2. Our company makes contribution to help the society deal with the spread of COVID-19.
3. Our company implements special programs to minimize the negative impact of COVID-19 on society.
4. Our company supports nongovernmental organizations' work in areas related to the

COVID-19.

5. Our company contributes to campaigns and projects that aim to deal with the spread of COVID-19.
6. Our company encourages its employee to participate in voluntary activities to support the society to fight COVID-19.
7. Our company emphasizes the importance of its COVID-19-related social responsibilities to the society.

Internal CSR:

(1 = *strongly disagree*; 5 = *strongly agree*)

1. Our company policies encourage the employees to improve their knowledge and skills to cope with the spread of COVID-19.
2. Facing COVID-19, the management of our company is primarily concerned with employees' needs and wants.
3. Facing COVID-19, our company implements flexible policies to provide a good work and life balance for its employees.
4. During the spread of COVID-19, the managerial decisions related to the employees are usually fair.

Death Anxiety:

(1 = *strongly disagree*; 5 = *strongly agree*)

1. I am very much afraid to die.
2. The thought of death seldom enters my mind. (Reverse-coded)
3. It doesn't make me nervous when people talk about death. (Reverse-coded)
4. I dread to think about having to have an operation.
5. I am not at all afraid to die. (Reverse-coded)
6. I am not particularly afraid of getting cancer. (Reverse-coded)

7. The thought of death never bothers me. (Reverse-coded)
8. I am often distressed by the way time flies so very rapidly.
9. I fear dying a painful death.
10. The subject of life after death troubles me greatly.
11. I am really scared of having a heart attack.
12. I often think about how short life really is.
13. I shudder when I hear people talking about a World War III.
14. The sight of a dead body is horrifying to me.
15. I feel that the future holds nothing for me to fear. (Reverse-coded)

Generativity-based Death Reflection:

(1 = *strongly disagree*; 5 = *strongly agree*)

1. When I think about death, I feel like I should do more for the world.
2. When I think about death, I feel a strong urge to help other people.
3. When I think about death, I want to be a more generous person.
4. When I think about death, I want to spend more time with the people I care about.
5. When I think about death, I want to tell the people I care about how I feel about them.
6. When I think about death, I want to spend more time with my family.

Work Withdrawal:

(1 = *strongly disagree*; 5 = *strongly agree*)

“During the past week, I...”

1. Thought of being absent.
2. Chat with co-workers about nonwork topics.
3. Left work station for unnecessary reasons.
4. Daydreamed.
5. Spent work time on personal matters.

6. Put less effort into job than should have.
7. Thought of leaving current job.
8. Let others do my work.
9. Left work early/stopped working early without permission.
10. Took longer lunch or rest break than allowed.
11. Took supplies or equipment without permission.
12. Fell asleep at work.

Helping Behaviors:

(1 = *strongly disagree*; 5 = *strongly agree*)

1. In the past week, I helped coworkers out when they fell behind in their work.
2. In the past week, I willingly shared my expertise with other members of the work unit.
3. In the past week, I tried to act like peacemaker when other coworkers had disagreements.
4. In the past week, I took steps to try to prevent problems with other coworkers.
5. In the past week, I willingly gave of my time to help coworkers who had work related problems.
6. In the past week, I “touched base” with other coworkers before initiating actions that might affect them.
7. In the past week, I encouraged other coworkers when someone was down.

Trait Anxiety (Study 2):

“Please indicate how frequently you feel in the following ways.” (1 = *almost never*; 4 = *almost always*)

1. I lack self-confidence.
2. I feel inadequate.
3. I feel like a failure.
4. I wish I could be as happy as others seem to be.

5. Some unimportant thought runs through my mind and bothers me.
6. I worry too much over something that really doesn't matter.
7. I get in a state of tension or turmoil as I think over my recent concerns and interests.
8. I have disturbing thoughts.
9. I take disappointments so keenly that I can't put them out of my mind.
10. I feel that difficulties are piling up so that I can't overcome them.
11. I feel nervous and restless.

Neuroticism (Study 2):

(1 = *strongly disagree*; 7 = *strongly agree*)

“I see myself as someone who is ...”

1. ...unenvious. (reverse coded)
2. ...relaxed. (reverse coded)
3. ...moody
4. ...jealous
5. ...temperamental.
6. ...envious.
7. ...touchy.
8. ...fretful.

Need for Information (Study 2):

(1 = *strongly disagree*; 5 = *strongly agree*)

1. I search for information about what I would have to do in case an accident happens in my surroundings.
2. If an accident happens anywhere, I am likely to search for information.

Appendix C

A Validation Study of the COVID-19 Information Exposure Measures

Participants and procedure. Before conducting Study 2, we carried out a validation study of the COVID-19 information exposure measures by recruiting participants through Amazon's Mechanical Turk (MTurk). To participate in this study, participants had to be full-time employees living in the United States. They responded to the two-item COVID-19 information exposure scale that was used in Study 1 and the four-item information exposure scale (Hornik et al., 2013) that was used in Study 2. After removing low-quality data following the approach described in Study 1, the final sample consisted of 457 full-time employees (45.7% female). They were on average 41.86-year-old ($SD = 11.05$), with an average organizational tenure of 9.32 years ($SD = 7.19$). 89.1% of them held a two-year college degree or above.

Results. The Spearman-Brown formula-based reliability was .76 ($p < .001$) for the two-item Study 1 COVID-19 information exposure scale and the alpha reliability was .74 for the four-item information exposure scale. Results revealed that these two measures were significantly and highly correlated ($r = .74, p < .001$). This supports the convergent validity of the original two-item measure of information exposure. Further, with the MTurk data, we were able to estimate a single-factor measurement model for the 4-item measure of COVID-19 information exposure. The model fit the data well ($\chi^2(2) = .10$ ($p = .98$), CFI = 1.00, SRMR = .00, RMSEA = .00), supporting the construct validity of the 4-item measure. We then proceeded to use this 4-item information exposure measure in Study 2.