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ORIGINAL PAPER

Keeping Employees Safe During Health Crises: The Effects of Media Exposure, HR Practices, and Age

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Abstract

Occupational health and safety are critical in promoting the wellness of organizations and employees. The COVID-19 pandemic is one of the most life-threatening viruses encountered in recent history, providing a unique opportunity for research to examine factors that drive employee safety behavior. Drawing from terror management theory, we propose and test a moderated mediation model using data collected from employees working during a peak of the pandemic. We identify two sources of influence — one external (i.e., media exposure), and one internal (i.e., HR practices) to the organization — that shape employees' mortality salience and safety behaviors. We find that COVID-19 HR practices significantly moderate the relationship between daily COVID-19 media exposure and mortality salience, with media exposure positively associated with mortality salience at lower levels of HR practices but its effects substituted by higher levels of HR practices. Moreover, our results also show that mortality salience spurs safety behaviors, with age moderating this relationship such that younger — but not older — employees are more likely to engage in safety behaviors due to mortality salience. Taken together, we offer theoretical implications for the safety behavior literature and practical implications for organizations faced with health crises or having employees who commonly work in hazardous conditions.

Keywords Safety behavior · HR practices · Media · Mortality salience · Age · Health crisis

Introduction

It is essential for organizations to minimize health risks and avoid unsafe incidents in the workplace. Employees cannot work productively when they are consistently exposed to health-related risks, which often results in large direct and indirect costs for the organization (Bureau of Labor Statistics, 2019; Hsu, 2022; Rosenberg, 2022). Employees' unsafe behaviors can be one primary contributing factor in exacerbating such health risks. For instance, if employees do not follow safety procedures, they are more likely to be exposed to increased health risks, resulting in negative consequences both for themselves and the organization. A healthcare crisis like the COVID-19 pandemic offers a unique prospect to study the specific factors that influence employee safety. In particular, when a highly contagious disease threatens employees' health, what informs them of the danger and motivates them to follow safety guidelines and practices?

National news media, whether via print, television, or Internet, are a prominent source of information during large-scale crises (Mitchell and Oliphant, 2020), and exposure to such media provides important information that may ultimately drive employees' safety behaviors. Since early 2020, there has been extensive media coverage of the COVID-19 pandemic. During this crisis, the media has played an increasingly important role in the lives of many people as a primary means for acquiring information, representing for some the main point of connection with the outside world (Mitchell and Oliphant, 2020; Weitman and Essling, 2020). As the media continued to report on the increasing number of COVID-19-related hospitalizations and deaths, media

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exposure provided people with consistent reminders of the toll of this virus, including its mortality impact.

Based on terror management theory (TMT; Greenberg et al., 1986), we suggest that the salience of death that the news coverage engendered may have informed people's behaviors, including employees' safety behaviors. TMT posits that faced with perceived existential threat (i.e., mortality salience), people enter into a self-preservation mode that motivates them to engage in health-related behaviors to cope with the fear of dying (Greenberg et al., 1986). Safety behaviors are defined as the within-person and between-person differences in actions taken by employees to maintain and improve workplace safety (Beus and Taylor, 2018), and such behaviors may be different in the context of COVID-19 (Gulseren et al., 2021). For instance, Centers for Disease Control and Prevention (CDC, 2021) recommended a new and specific set of COVID-19 safety behaviors such as rules on social distancing, hygiene/cleanliness, and quarantine/attendance (Probst et al., 2020).

Although media coverage has been a primary source of COVID-19 information during the pandemic (Mitchell and Oliphant, 2020; Weitman and Essling, 2020), TMT highlights the role of boundary conditions on the salience and impact of thoughts of mortality. Specifically, TMT highlights that the immediate social environment plays a key moderating role in how people respond to threats to their mortality (Greenberg et al., 1986), and the workplace to employees is such an example of a salient social environment. Accordingly, we suggest that organizations' COVID-19 HR practices shape the extent to which COVID-19 media exposure induces employees' mortality salience. Organizations can play an important role in preventing or mitigating the spread of the virus by implementing policies and practices encouraging behaviors in adherence to the World Health Organization (WHO, 2020a) and CDC guidelines, including ones pertaining to social distancing (e.g., reconfiguring the workplace to maintain 6-ft spaces between individuals), hygiene (e.g., disinfecting work areas), and quarantine/attendance (e.g., reducing hours open to the public) (Probst et al., 2020; Sinclair et al., 2020; Yuan et al., 2021). Such practices create an organizational context that can shape the effects of media exposure on employees' death-related thoughts, which has implications for employees' compliance with safety measures (Clarke, 2006; Nahrgang et al., 2011). Specifically, we posit that greater implementation of relevant HR practices in the workplace attenuates the effect of media exposure on mortality salience and safety behaviors among employees. In contrast, when organizations implement fewer HR practices, increased exposure to COVID-19 media may stimulate employees' mortality salience more and, in turn, their adoption of safety behaviors.

Importantly, mortality salience does not drive behaviors to the same extent for everyone. According to the TMT literature, age is a critical factor that influences the extent to which safety behaviors are driven by mortality-based thoughts and feelings (Gesser et al., 1988; Rasmussen and Brems, 1996). Even though the salience of death increases as people age, older adults are less affected by the thought of dying (Ryff and Dunn, 1985; Ryff and Heidrich, 1997), thus mortality salience is a weaker driver of behaviors for older individuals. For instance, older adults possibly more habitually engage in health and safety behaviors given their ever-enduring awareness that health tends to decline with age (Arnold and Becker, 2004; Arras et al., 2006). Therefore, for older adults, their age itself serves as a driver of health and safety behaviors. As COVID-19 safety advisories emerged, older adults, for whom the virus is more life-threatening (CDC, 2020), have likely incorporated safety behaviors into their habitual, daily routine. Because people's habits are less driven by transient states (Ouellette and Wood, 1998), daily mortality salience will exert stronger effects on younger employees' safety behaviors than it will on safety behaviors of their older colleagues.

Taken together, drawing on TMT (Greenberg et al., 1986), we develop a multilevel, moderated mediation model to address sources of mortality salience and its role in motivating employees' COVID-19 safety behaviors. Specifically, we investigate employees' daily media exposure and organizations' HR practices as influences on employees' mortality salience, which in turn motivates their daily safety behaviors at work, contingent on their age (see Fig. 1).

Our study contributes to the literature in three key respects. First, we show that TMT provides a useful way to understand drivers of workplace safety behavior. This is an important insight because, in contrast to existing organizational behavior research that mainly focuses on the anxiety-provoking aspect of mortality salience that impairs employee well-being (Hu et al., 2020; Mallett et al., 1991; Sliter et al., 2014; Stein and Cropanzano, 2011), our work highlights a positive implication of employees' mortality salience (i.e., increasing employee safety behavior). More broadly, our study inspires future research on work safety behavior to draw on TMT to identify factors that impact mortality salience. Although the specific safety behaviors may differ among various workplace contexts (e.g., oil rig or lumber processing), the mortality salience mechanism in these contexts should parallel our study of COVID-19 safety behaviors.

Second, our analysis broadens the literature that has primarily focused on internal influences of employee safety within the organization (e.g., safety climate; Christian et al., 2009; Hofmann and Stetzer, 1996; Zohar, 1980) to recognize that employees are also influenced by external factors, such as the extent of their media exposure. Although organizations should always implement procedures to encourage employee safety behaviors, there are cases when

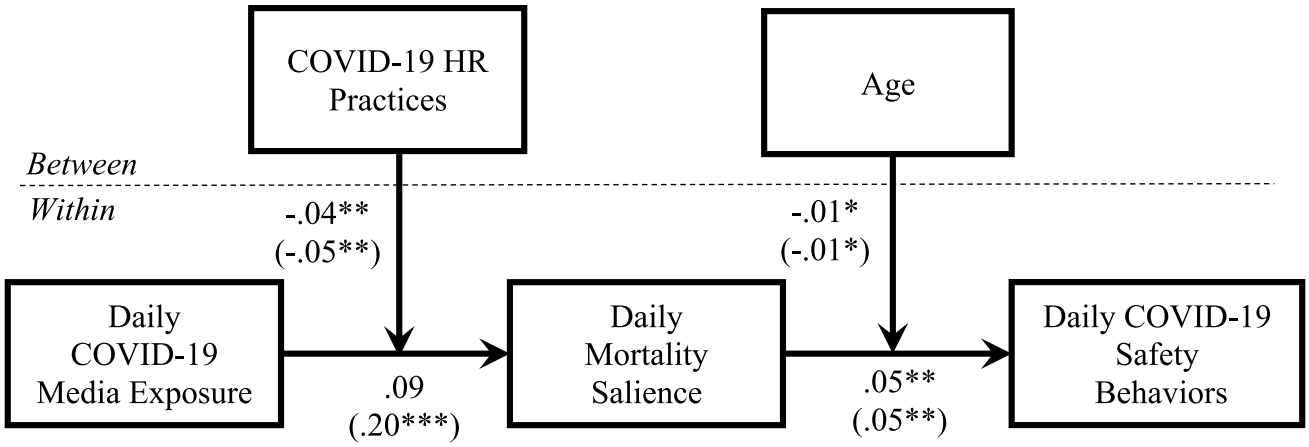

Fig. 1 Conceptual model and empirical results of multilevel path analysis. The values in parentheses are estimates from the public health media model as described in supplemental analyses. *$p < .05$, **$p < .01$, ***$p < .001$

organizations do not yet have the capacity to have those procedures in place. In these cases, media, for example, with its prevalence in people's lives, can spill over into the workplace and affect the ways people approach workplace safety (Colbert et al., 2016). An accurate understanding of these external influences will also allow organizations to adapt their policies to enhance any beneficial effects and counteract any harmful effects.

Lastly, by identifying employee age as a moderator in the relationship of mortality salience with COVID-19 safety behaviors, our study points to a new insight for workplace safety behavior research. Compared to mortality salience that captures a more transient and temporal psychological state, age is a relatively stable factor that may exert more constant influence on employee safety behaviors. The current moderation evidence suggests that workplace safety behaviors can be understood, and potentially managed, in part through the development of employees' habitual patterns. This suggestion has implications for motivation research, broadly, that people of various ages likely have different concerns and should be motivated by different managerial strategies that engage their concerns (Kanfer and Ackerman, 2004).

Theory and Model Development

Greenberg et al.'s (1986) TMT provides a useful theoretical framework to help explain the factors that impact employee safety behaviors. TMT proposes that people have a self-preservation instinct, and mortality salience (i.e., awareness of the inevitability of death at a proximal time) conflicts with this instinct. Mortality cues, such as stories about fatal accidents or the death toll associated with a healthcare crisis, can trigger people's mortality salience. With respect to the workplace, mortality cues can be external (i.e., originating outside the workplace) or internal (i.e., originating within the workplace; Grant and Wade-Benzoni, 2009). In addition, some cues are chronic mortality cues, capturing events that are consistent and long-lasting, whereas other cues are acute mortality cues, capturing events that are short-lived and intermittent (Grant and Wade-Benzoni, 2009). In this study, we examine COVID-19 media exposure as an external cue that predicts mortality salience, and whether this cue association is contingent on organizations' HR practices. While COVID-19 media exposure may trigger employees' mortality salience, HR practices are an internal and more consistent influence, which may also communicate the threat of this virus. In addition, TMT proposes that when people feel or think that death is potentially imminent and inevitable, they engage in self-preservation practices. A key consideration of self-preservation practices is in the health domain (Arndt et al., 2003; Goldenberg and Arndt, 2008). For example, people under mortality threat are motivated to live a healthier lifestyle, contingent on the specific kind of mortality threat (Cooper et al., 2010; Vail et al., 2012). We examine how mortality salience influences employees' safety behaviors — a self-preservation practice and health behavior in the workplace. Lastly, in response to life events, people typically change their behaviors as they age, making age an often-discussed factor tightly linked to mortality salience (Gesser et al., 1988; Rasmussen and Brems, 1996). Thus, we incorporate age as a moderator of the mortality salience–safety behaviors relationship.

COVID-19 Media Exposure and Mortality Salience

Lippmann (1922) asserted that individuals' opinions are shaped by the information they piece together from others' reports. The media plays an important role in transmitting

information and shaping attitudes (DellaVigna and La Ferrara, 2015; Gunther, 1998). People's reliance on media as a primary and immediate information-seeking tool is especially strong during crises (Ball-Rokeach, 1985). As people search for information to understand the virus and the impact of the pandemic, many have turned to the media, which has been extensively covering this issue (Pearman et al., 2021). According to the Pew Research Center, 89% of US adults followed national news about COVID-19 either fairly or very closely as of March 2020 (Mitchell and Oliphant, 2020). Considering the role of the media in shaping public opinion (DellaVigna and La Ferrara, 2015; Gunther, 1998), such close attention to the news should inevitably shape employees' daily attitudes about COVID-19.

Since the beginning of the pandemic, major outlets have published negative COVID-19-related stories, often portraying the virus as dangerous and life-threatening. Based on their analysis of over 141,000 headlines from the 25 top-rated English news sources related to COVID-19 between January and June 2020, Aslam and colleagues (2020) found that over half of headlines communicated negative sentiments. Similarly, Sacerdote and colleagues (2020) classified 87% of news articles published in 2020 from major news outlets in the USA, such as CNN, Fox, MSNBC, and ABC News, as negative in tone (e.g., discussing death tolls). In addition, they found that all media outlets, regardless of political leanings, overwhelmingly published negative stories about COVID-19. Despite incongruent opinions about the pandemic in the first half of 2020, the consensus of the media about the severity of COVID-19 was especially salient during the second half of the year (Deane et al., 2021).

People who have exposure to crises and traumatic events via media tend to experience negative reactions (Hopwood et al., 2019; Lachlan et al., 2010). Although media provide people an indirect exposure to trauma, people can experience increased levels of threat perception through such media (Maeseele et al., 2008). In addition, people often rely on extreme examples spotlighted in the media to understand the severity of a distressing event and its effect on personal lethality (Zillmann, 2002). Given the negative tone of the news about COVID-19 and their consistent emphasis on cases of hospitalizations and fatalities, COVID-19 news likely serves as an external mortality cue, making people think about death as they consume this information (Grant and Wade-Benzoni, 2009). Indeed, research has supported the notion that media exposure can trigger anxiety that is potentially related to the awareness of death (Cohen et al., 2006; Courtney et al., 2020). Specifically, disaster-related media exposure is often associated with negative psychological outcomes such as heightened anxiety and fear (Houston, 2009; Pfefferbaum et al., 2014). Similarly, Gao and colleagues (2020) found that media exposure during the pandemic is associated with poor mental health, postulating that this is likely due to the pandemic's actual and perceived mortality threat. Also, Hu and colleagues (2020) found that COVID-19 triggers anxiety, which is likely caused by mortality salience. We directly test this proposed association between media exposure and mortality salience, with the expectation that the length of time people spend consuming COVID-19 news on a daily basis is associated with their mortality salience on that day.

Hypothesis 1: On a daily basis, COVID-19 media exposure is positively associated with employee mortality salience.

COVID-19 HR Practices Moderate the Influence of Media Exposure on Mortality Salience

Organizational policies and practices enhance workplace safety and can improve employees' safety behaviors (Neal et al., 2000; Zohar, 1980). These policies become more crucial at times of public health crisis. The WHO (2020a) suggests organizations should implement COVID-19-related safety practices and procedures through engineering and administrative controls to prevent the spread of the virus. More specifically, the WHO (2020a) recommends devising social distancing rules (e.g., keeping 6-ft apart from others and avoiding contact with those outside one's household), hygiene/cleanliness rules (e.g., wearing masks and washing hands), and quarantine/attendance rules (e.g., staying home when feeling unwell and leaving work when feeling sick). However, organizations often vary in their implementation of these practices (Shepherd, 2020). Without these proper protections, employees' health may be at risk due to close physical proximity with infected coworkers or customers and contact with contaminated surfaces and objects (WHO, 2020b).

We suggest that employees' mortality salience linked to COVID-19 media exposure is conditional on organizations' COVID-related HR practices. While COVID-19 media exposure may stimulate mortality salience as an external cue, the media varies in their message from day to day and source to source, and their effects may be short-lived (Grant and Wade-Benzoni, 2009; Pearman et al., 2021). Moreover, each employee's extent of exposure to and consumption of the news could also differ from day to day. Organizations' COVID-19 HR practices, in comparison, are more proximal, stable, and enduring. An organization's HR practices are embedded practices that are not only intended to protect employees' health but can also provide a constant reminder to employees about the danger of COVID-19 and shape their perceptions of the public health crisis. Organizations' COVID-related HR practices signaled to employees that the virus is present and needs to be taken seriously as it may

cause severe illness and even death (Connelly et al., 2011). In addition, these HR practices communicated to employees that reducing the risk from COVID-19 in the workplace is a priority within the organization (Nahrgang et al., 2011). When organizations communicate such messages via their COVID-19 HR practices, thoughts about mortality should be more persistent and salient to employees. These messages may then function to offset any daily fluctuations in mortality salience generated by media exposure (Hannah and Iverson, 2004). Thus, organizations that have higher levels of COVID-19 HR practices may keep employees' mortality salience at relatively higher levels, rendering media exposure less influential for employees. In contrast, when organizations have lower levels of COVID-19 HR practices, employees are not consistently informed about the danger of the virus at work, making them more susceptible to the threatening information conveyed by the media each day. Therefore, with lower levels of HR practices, daily exposure to COVID-19 media may be more salient and play a more critical role in generating mortality salience in employees. Taken together, we propose that at higher levels of HR practices, the relationship between exposure to COVID-19 media and mortality salience is weaker, whereas at lower levels of HR practices, exposure to such media increases mortality salience.

Hypothesis 2: Organizations' COVID-19 HR practices moderate the positive relationship between daily media exposure and employee mortality salience, such that this association is stronger for organizations with fewer COVID-19 HR practices.

Mortality Salience and COVID-19 Safety Behaviors

Mortality salience impacts people's decisions regarding their health. Because the awareness of mortality is threatening, it can function instrumentally and purposefully to facilitate people's health-relevant decisions and behaviors (Arndt et al., 2003; Goldenberg and Arndt, 2008). People's awareness of potentially dying from a particular health threat encourages them to live a healthier lifestyle (Vail et al., 2012). Even more, conscious thoughts of death tend to elicit self-preservation behaviors, which vary based on the specific kind of death threat (Cooper et al., 2010). For example, people made acutely aware of their risk of dying from skin cancer were more likely to engage in protective measures against the sun (Cox et al., 2009; Routledge et al., 2004). Building on these studies that have found a positive association between mortality salience and corresponding health-related behaviors, we expect there is a direct relationship between mortality salience and employee safety behaviors. In the context of COVID-19, safety behaviors include adherence to social distancing, hygiene/cleanliness, and quarantine/attendance rules, as suggested by WHO and CDC. In short, we posit that on a daily basis, conscious awareness of mortality increases employees' attempts to reduce their own risk by engaging in self-protective behaviors.

Hypothesis 3: On a daily basis, employees' mortality salience is positively related to their COVID-19 safety behaviors.

Age Moderates Mortality Salience and COVID-19 Safety Behaviors

Age is a factor often discussed in TMT (Gesser et al., 1988; Rasmussen and Brems, 1996) and important in the present analysis because age directly relates to how strongly people act on mortality salience — the core mediating process in our theoretical framework. Older adults are temporally closer to their own death and more frequently confronted with various types of health declines associated with aging, such as reduced stamina, deteriorating physical and cognitive abilities, and other medical problems (Stuart-Hamilton, 1991). With advancing age, death becomes expected and normative, resulting in decreased stress about impending mortality (Ryff and Dunn, 1985; Ryff and Heidrich, 1997). In fact, death anxiety peaks when people are in their twenties and declines as they reach middle-age and older stages of life (Gesser et al., 1988) to the point that older employees are often less prone to death anxiety due to cues internal or external to the workplace (Grant and Wade-Benzoni, 2009). In contrast, younger adults seldom think about death until prompted (Henley and Donovan, 2006). Therefore, we suggest that younger adults do not respond to death reminders in the same way as their older counterparts. Younger adults are likely to be impacted more strongly by mortality salience.

Moreover, age is particularly important in understanding health and safety behaviors of employees (Goldenberg and Arndt, 2008). As people age, they are more selective in their behaviors and engage in more age-appropriate strategies to protect their health (Carstensen, 1992, 1995; Heckhausen and Schulz, 1995; Lawton et al., 1993). For instance, as people get older, they increase their participation in health-promoting behaviors, such as physical and mental exercises, to maximize their physical and cognitive functions (Arnold and Becker, 2004; Arras et al., 2006; Baltes and Carstensen, 2003). In short, older people are more habitually focused on health and safety (Clark et al., 2020). As a result, their enactment of health and safety behaviors is less driven by transient psychological states and more driven by their age that exerts a more constant influence (Ouellette and Wood, 1998). Experimental studies have found that age impacts people's health-related behavioral responses to mortality salience. For example, Taubman-Ben-Ari and

Findler (2005) found that conscious thoughts of dying lead younger adults to report greater willingness to engage in health-promoting behaviors, but this relationship does not hold for older adults. Similarly, Bozo and colleagues (2009) found that younger adults, compared to older adults, engage in more health-promoting behaviors after being prompted with death-related scenarios. These findings suggest that age likely moderates the association between employees' mortality salience and their safety behaviors. Specifically, we expect that older employees engage in safety behaviors relatively independent of their mortality salience, reflecting a more habitual pattern of safety behaviors. In contrast, mortality salience is more strongly related to younger employees' safety behaviors.

Hypothesis 4: Age moderates the positive relationship between employees' mortality salience and their safety behaviors, such that this association is stronger for younger employees.

Taken together, we utilize Greenberg and colleagues' (1986) TMT as a theoretical foundation to identify *when* COVID-19-related media exposure evokes mortality salience, *how* this exposure leads to safety behaviors, and *for whom* mortality salience motivates safety behaviors. In addressing the issue related to employee safety, it is critical to focus on *day-to-day* safety behaviors rather than their average occurrence over time. After all, one exposure event can be enough to contract the virus and become a source of contagion and endanger the entire workplace. Accordingly, we test a moderated mediation model in which daily COVID-19 media exposure triggers employees' daily safety behaviors via mortality salience, contingent on their organizations' COVID-19 HR practices and the focal employee's age.

Hypothesis 5: There is a conditional indirect effect of employees' COVID-19 media exposure on younger employees' safety behaviors via mortality salience at lower levels of organizations' COVID-19 HR practices, but not for older employees or at higher levels of HR practices.

Method

Sample and Procedure

We recruited 42 full-time employees enrolled in a part-time, executive style MBA program at a large mid-western university in the USA. We used experience sampling methodology (ESM) to account for daily variations in our study variables. We expected that individuals' exposure to the news, the mortality trigger, would vary from day to day. Mortality salience is also a temporal psychological effect triggered by reminders of death at a proximal time (Greenberg et al, 1986). Similarly, safety behaviors at work are contextual and time-based (Beus & Taylor, 2018). Surveys were administered over a period of three weeks in October 2020, one of the highest peaks of the pandemic (Leatherby, 2020). All participants were working on-site during the period of data collection. Before starting the daily data collection, participants completed a one-time survey measuring their organizations' COVID-19 HR practices and demographic information (e.g., age). One week later, participants started the ESM period by completing two daily surveys for ten consecutive workdays. The first daily survey, sent at approximately 11 AM, captured their COVID-19 media exposure and mortality salience. The second daily survey, sent around 4 PM, captured their safety behaviors at work during that day. In the context of this study, self-reports of safety behaviors were deemed acceptable for three reasons: (a) the short daily timeframe ensures less chance of recall/memory lags; (b) social distancing requirements minimize social contact at work and makes it difficult to accurately track coworkers' (i.e., non-self) safety behaviors; and (c) it provides a chance for within-person analyses, which partials out variance due to individual differences like social desirability. Our dataset initially consisted of 353 daily observations across 42 employees. We excluded one employee who did not report age and removed one participant who worked from China (COVID-19 data used for controls were unavailable from this region). Furthermore, we removed study days in which participants reported that they did not work. Our final dataset consisted of 40 employees with a total of 326 daily observations. On average, participants were 36.6 years of age (SD = 5.6), and 48.8% were female. They worked in a variety of industries, including finance, healthcare, social care, government, manufacturing, human resources, engineering, and sales.

Measures

To capture *COVID-19 media exposure*, we adapted a measure from Nelson and Taneja (2018) that asked participants how much time (reported in minutes) they spent consuming COVID-19 news via print, Internet, TV, or radio from national news outlets up to that point on that day. Examples of national media provided were CNN, Fox News, NY Times, and WSJ. National media have the largest consumer base, relative to other types of media outlets (Leonhardt, 2021). Notably, although in the early stages of the pandemic, some national news sources (e.g., Fox news) treated COVID-19 as a less severe health concern than other outlets (e.g., CNN), these inconsistencies were more prevalent during the early stages of the pandemic (Mitchell and Oliphant, 2020; Motta et al., 2020). Our data were collected in October 2020 when both right- and left-leaning national outlets presented

more consistent messages about the seriousness of the virus (Deane et al., 2021; Leonhardt, 2021). Because media exposure was reported in minutes and unstandardized coefficients are sensitive to measurement units (Aiken and West, 1991), we standardized this variable to improve interpretation.

Mortality salience was measured using an adapted two-item (within-person $\alpha = 0.80$) version of Templer's (1970) death anxiety scale; the items were "While at work today, thoughts about mortality entered my mind" and "While at work today, I thought about how short life is." To capture daily *safety behaviors*, we asked employees whether on the focal day they had adhered to specific COVID-19 safety recommendations outlined by the WHO (2020a): social distancing rules, hygiene/cleanliness rules, and quarantine/attendance rules (within-person $\alpha = 0.70$). Participants responded to these measures of mortality salience and safety behaviors using a 5-point scale (1 = *strongly disagree*; 5 = *strongly agree*).

To assess *COVID-19 HR practices*, we asked employees whether their organization had implemented six HR practices in response to COVID-19. The HR practices were selected based on their prevalence as an organizational response to COVID-19 and their match to the safety behaviors measured in the daily surveys. For social distancing rules, we asked whether their organization had implemented "safety/health reconfiguration of the workplace" and "social distancing/no contact practices." For hygiene/cleanliness rules, we asked about "disinfected work areas" and "COVID-19 testing." For quarantine/attendance rules, we asked whether organizations had enacted "building/store closures/quarantines" and "reduced hours." Participants responded either "yes" or "no" to each HR practice. Following prior HR literature (e.g., Batt, 2002; Delery, 1998; Huselid, 1995; Jiang et al., 2012), we transformed the HR practices items into z-scores and then summed the items to obtain an additive index.

Analytic Strategy

Given the multilevel nature of the data, we tested our hypotheses using multilevel path analysis in Mplus 8 (Muthén and Muthén, 2017). Following best-practices in ESM, we group-mean centered the within-person variables and grand-mean centered the between-person variables (Enders and Tofighi, 2007). In addition, we controlled for several theoretically relevant variables at the within- and between-person levels. At the daily level, we controlled for the lagged effects of the endogenous variables (i.e., mortality salience and safety behaviors from the previous day) to examine change in our hypothesized relations (Fisher and To, 2012). We further controlled for the number of COVID-19 deaths that occurred in each participant's state of residence on each study day to account for state-level differences in both the impact of COVID-19 and each state's response (McMinn and Crampton, 2021) as well as the potential effects of these influences on mortality salience. Lastly, because safety behaviors at work matter most when people are in the office and especially when they are with other people, we controlled for whether face-to-face meetings took place at the daily level (1 = Yes; 0 = No). Our results were consistent when excluding these controls, but we retained them for more conservative tests of our hypotheses.

Results

Table 1 presents the descriptive statistics and correlations among the study variables. There was substantial within-person variation in our level-1 study variables: COVID-19 media exposure (88.9%), mortality salience (38.0%), and safety behaviors (82.5%). To provide support for our measurement model, we ran a multilevel confirmatory factor analysis. The hypothesized model demonstrated acceptable fit: $\chi^2(13) = 17.40$, RMSEA = 0.03, CFI = 0.98, TLI = 0.97, SRMR = 0.03 (within) /0.09 (between). Indeed, this model fit better than an alternative model combining two factors at the within-person level ($\Delta\chi^2$ ($\Delta df = 1$) = 109.50). Taken together, these results indicate that the use of multilevel modeling is appropriate.

Tests of the Hypotheses

As displayed in Table 2, COVID-19 media exposure had a null relationship with mortality salience ($\gamma = 0.09$, SE = 0.07, $p = 0.15$). Thus, Hypothesis 1 was not supported. However, Hypothesis 2 was supported; the cross-level interaction of COVID-19 media exposure and HR practices on mortality salience was significant ($\gamma = -0.04$, SE = 0.01, $p = 0.01$). To better understand this cross-level interaction, we plotted the relationship at conditional values of COVID-19 HR practices (+1 and –1 SD; Cohen et al., 2003). As shown in Fig. 2, there was a positive relationship between COVID-19 media exposure and mortality salience when COVID-19 HR practices was lower (*simple slope estimate* = 0.23, SE = 0.12, $p = 0.047$), whereas this relationship was non-significant when COVID-19 HR practices was higher (*simple slope estimate* = −0.04, SE = 0.03, $p = 0.13$). Thus, the effect of COVID-19 media exposure on mortality salience occurred only for those reporting their organizations had implemented fewer COVID-19 HR practices.

In addition, mortality salience had a significant positive relationship with safety behaviors ($\gamma = 0.05$, SE = 0.02, $p = 0.01$), providing support for Hypothesis 3. We also found a significant cross-level interaction of age on this relationship between mortality salience and safety behaviors ($\gamma = -0.01$, SE = 0.003, $p = 0.03$). As illustrated by Fig. 3,

Table 1 Means, standard deviations, and correlations

	Mean	SD	1	2	3	4	5	6
Within-person level								
1. COVID-19 media exposure	3.83	13.48						
2. Mortality salience	1.79	0.92	− .01					
3. Safety behaviors	4.33	0.86	− .01	.11*				
4. COVID-19 mortality cases	39.88	165.93	− .01	.07	.18*			
5. Face-to-face meeting	0.38	0.49	.08	.05	.05	− .01		
Between-person level								
5. COVID-19 HR practices	8.24	1.57	− .23	− .02	− .17	.22	.00	
6. Age	36.40	5.49	− .11	.14	.05	.04	.12	− .09

Level 1 N = 326, Level 2 N = 40. COVID-19 Media Exposure and HR Practices are unstandardized in this table. *$p < .05$

at younger ages, the relationship between mortality salience and safety behaviors was positive and significant (*simple slope estimate* = 0.08, SE = 0.03, $p = 0.004$). Conversely, at older ages, the relationship between mortality salience and safety behaviors was non-significant (*simple slope estimate* = 0.02, SE = 0.02, $p = 0.27$). Thus, Hypotheses 4 was also supported.

Finally, we tested whether there was a conditional indirect effect of COVID-19 media exposure on safety behaviors via mortality salience at lower levels of HR practices occurring in the first stage of mediation and at lower values of age occurring in the second stage of mediation. To test for this moderated mediation, we generated 95% confidence intervals using Monte Carlo estimation procedures (Preacher and Selig, 2012). We calculated the conditional indirect effects of media exposure on safety behaviors via mortality salience at higher and lower values (+ 1 and –1 SD) of HR practices and age (Edwards and Lambert, 2007). We found that the confidence interval of the conditional indirect effects excluded zero at lower levels of the moderators, 95% CI (0.0003, 0.0397), but included zero at higher levels of the moderators, 95% CI (− 0.0038, 0.0008). Thus, Hypothesis 5 was supported.

Supplemental Analyses

Given that the messages conveyed by national news media can be polarizing across different (e.g., left- vs. right-leaning) news sources, we also examined public health media reports by CDC, WHO, and similar health authorities as an alternative news source. Compared to national news exposure, this source of COVID-19 news was monitored far less frequently by participants (i.e., less than 8% of daily observations reported attending to public health news). We found that the overall pattern of results remained consistent, with the exception of a significant main effect of public health media on mortality salience. That is, consistent with Hypothesis 1, COVID-19 media exposure had a

Table 2 Multilevel path analysis results

	Dependent variables	
Variable	Mortality salience (*t*)	Safety behaviors (*t*)
Level-1 (within-person)		
COVID-19 media exposure (*t*)	.09(.07)	− .002(.03)
Safety Behaviors (*t* − 1)	.03(.03)	.04(.04)
Mortality Salience (*t* − 1)	− .02(.04)	.01(.03)
COVID-19 mortality cases (*t*)	.00(.00)	.00(.00)
Face-to-face meeting (*t*)	.04(.05)	.06(.12)
Mortality salience (*t*)		.05(.02)**
Level-2 (between-person)		
COVID-19-HR practices	.01(.03)	
COVID-19 media exposure × HR practices	− .04(.01)**	
Age		.01(.02)
Mortality salience × age		− .01(.003)*

Level 1 N = 326, Level 2 N = 40. Estimates are unstandardized coefficients. The values in parentheses are standard errors. *t*-1 indicates lagged prior-day variables. *$p < .05$, **$p < .01$

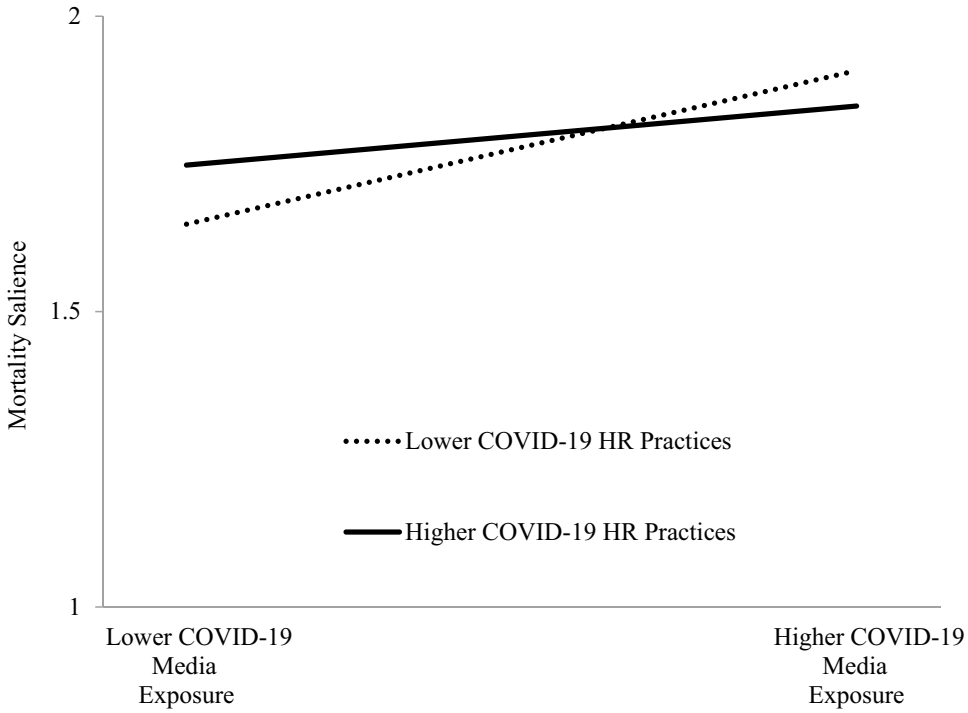

Fig. 2 COVID-19 media exposure × COVID-19 HR practices interaction on mortality salience

significant positive relationship with mortality salience when the source was a public health authority ($\gamma = 0.20$, SE = 0.01, $p < 0.001$). While not a commonly watched source, reports and announcements by national and international health authorities remained consistent and congruent throughout the pandemic, while national news sources did not (Bursztyn et al., 2020), which may explain this significant direct relationship. The cross-level interaction of COVID-19 media exposure and HR practices on mortality salience was significant ($\gamma = -0.05$, SE = 0.01, $p < 0.001$). Mortality salience had a significant positive relationship on safety behaviors ($\gamma = 0.05$, SE = 0.02, $p = 0.01$). There was a

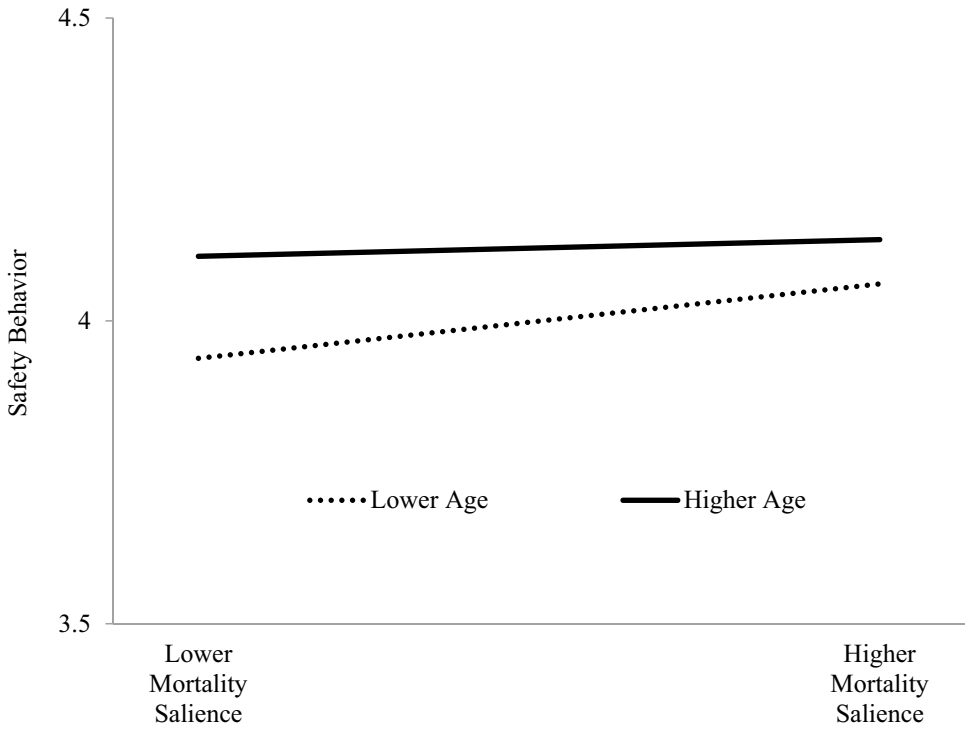

Fig. 3 Mortality salience × age interaction on COVID-19 safety behaviors

significant cross-level interaction of age on the relationship between mortality salience and safety behaviors ($\gamma = -0.01$, SE = 0.003, $p = 0.03$).

While not hypothesized, we tested whether there is a mediation effect between COVID-19 media exposure and safety behaviors via mortality salience. We found that the confidence interval included zero, 95% CI (-.0021, .0127). As such, only the conditional indirect effect is significant.

Discussion

Organizations exist in a broader societal context, and external factors outside the immediate workplace, such as interactions with family members (e.g., Lin et al., 2021) and stressful commutes (e.g., Zhou et al., 2017), have implications for employees' affect, cognition, and behavior while at work. In the midst of the pandemic, exposure to information about COVID-19 from news media is a salient external factor (Mitchell and Oliphant, 2020; Weitman and Essling, 2020). Although organizations have little direct control over employees' media exposure, much like they do not have direct control over family interactions or commute experiences, it nonetheless behooves practitioners and scholars to understand the impact that external factors have on employees. Such understanding is useful because organizations can take steps to enact policies or procedures that mitigate any harmful effects or facilitate any beneficial effects owing to external factors outside the organization's direct control.

In the context of our study, our findings suggest that when organizations take a passive role and leave it up to employees to inform themselves about a health crisis through news media, employees with little or no media exposure do not experience feelings of mortality and, as a result, engage in fewer health-related safety behaviors. However, for organizations that took an active stance by implementing more health-related HR practices (e.g., social distancing, hygiene/cleanliness, and quarantine/attendance requirements), mortality salience and safety behaviors were sufficiently high for all employees and did not change significantly with their news media exposure. Taking an active stance to ensure that employees perceive the mortality threat during a health crisis is especially important in the case of younger workers, because younger workers exhibited fewer health-related safety behaviors when they perceive little or no threat (despite the actual existence of the threat). From a diversity/inclusion standpoint, it is useful for organizations to know which employees are at higher risk when it comes to health and safety, which, in the context of our study, were younger employees. Health-related HR practices that target this demographic are therefore especially important to ensure that this group is sufficiently aware of the mortality threat and, as a result, protect themselves and their older generation coworkers who have higher mortality risks by engaging in more safety behaviors. Older employees, on the other hand, embrace safety behaviors with lower levels of mortality salience, presumably because their mindset is more habitually focused on health and safety.

Theoretical Implications

The first thing to note is that we did not observe a main effect of COVID-19 media exposure on mortality salience and, in turn, COVID-19 safety behaviors. This finding is consistent with our moderation model postulating that we should observe a more substantive relationship between (a) media exposure and mortality salience in organizations with lower levels of HR practices and (b) mortality salience and safety behaviors for younger employees. Accordingly, when the effects were averaged across differing levels of HR practices and older and younger employees, the significant main effect washed out.

Safety behaviors are important in the workplace but not unique to the workplace or only during public health crises. In a sense, they are universal and important for people to stay safe and healthy in almost all situations. It is relevant to ask: To what extent is people's motivation for safety behaviors something that they bring to work or something that can and should be fostered by the organization? Our study responds to this question by capturing the interaction between two sources of influence, one that is external to the organization (media exposure) and one that is internal (HR practices). We empirically extend Grant and Wade-Benzoni's (2009) postulation of the internal and external cues of mortality and show that these influences can substitute for one another, and media exposure and HR practices both ultimately increase safety behaviors. However, more stable organizational practices that are consistent with the prevention and eradication of public health crises are important in preventing potential daily drops in mortality salience and associated safety behaviors due to ebbs and flow in media coverage.

Our research focuses on one external factor (media exposure) and one internal factor (HR practices) as drivers of mortality salience and, ultimately, health-related safety behavior. It seems a straightforward extrapolation that the current research model would also hold when other sources of COVID-19 information are considered and when a broader set of HR practices is included. With respect to the former, we observed a similar pattern of moderating results when we examined employees' exposure to reports from public health authorities (e.g., WHO and CDC). Exposure to stable and reliable external sources of information can ensure employees safety behaviors through mortality salience, but with consistent internal practices organizations can buffer against unreliable sources. Employees may also

glean information from family members and those in their broader social network, either through face-to-face interactions or postings on social media (e.g., Facebook and YouTube). Government regulations and national culture are other external factors deserving of attention. With respect to the latter, several internal factors besides HR practices may play a role in making employees aware of mortality threats during health crises or other perilous global, national, and regional circumstances such as severe weather events. For example, internal factors such as the organization's culture or climate, especially climates for health and safety (e.g., Zohar, 1980), the leadership behavior of top-level executives and middle-level managers including health-specific leadership (e.g., Barling et al., 2002), training and development initiatives centered on health and safety, and employees' personal characteristics such as personality traits (e.g., prevention focus and neuroticism) may all play a role in shaping employees' mortality salience. Future research may speak to the merits of these proposals by examining other external (e.g., inconsistent sources of news such as Facebook and Twitter) and internal factors, which could be further distinguished by whether they are constant (e.g., employee traits and organizational structures) or variable (e.g., employee mood and leader behavior).

Our findings regarding age are important vis-à-vis the predictions derived from TMT in showing that (older) age makes COVID-19 safety behaviors less contingent on mortality salience. Our interpretation of this is that mortality salience captures a more transient psychological state, whereas age is associated with more stable and consistent patterns of affect, cognition, and behavior related to health and safety (Clark et al., 2020). Research on such patterns suggests that they make behaviors less contingent on transient psychological states such as mortality salience (Ouellette and Wood, 1998). Thus, our findings for age may extend to other factors, such as chronic health conditions, that make people more consistently focus on health and safety. This calls for the need to understand the effects of habitual patterns when studying safety behaviors. This also contributes to work motivation research by specifying the roles of age and mortality in employee motivation (Kanfer and Ackerman, 2004).

Our study advances work motivation theory and research by examining mortality salience as a motivated state that can trigger employees' behaviors at work, answering the call for more organizational studies to integrate TMT (Stein and Cropanzano, 2011). In addition, organizational behavior research mainly focuses on the anxiety-provoking aspect of mortality salience and its negative consequences on employees, such as increased burnout, reduced engagement, and higher absenteeism (Hu et al., 2020; Mallett et al., 1991; Sliter et al., 2014; Stein and Cropanzano, 2011). Our work opens up new research directions regarding the positive implications of employees' mortality salience (in this case, as an antecedent of safety behaviors). Future studies can explore other potential positive effects of TMT, not only in public health crises but within professions that constantly work under hazardous conditions.

Limitations

While a strength of our study is that it can speak to within-person variations in behaviors over time in ways that a more traditional survey design never can, this came with limitations typically seen in studies relying on repeated measurement across a number of days: a small sample at the between-person level, a reliance on self-ratings of behavior, and a correlational design. The first limitation means that our conclusions are more powerful at the within-person level compared to the between-person level. It is important to note, however, that a between-person sample size of $N = 30$ and above is seen as sufficient to provide reasonable standard error and unbiased estimates for studies of within-person relationships and cross-level interactions (Maas and Hox, 2004; McNeish and Stapleton, 2016; Scherbaum and Ferreter, 2009). The second limitation means that common source variance can be a greater concern than in more traditional surveys that have more realistic opportunities to combine different data sources. On this count, it is worth noting that our research model, with the exception of mortality salience, involves less subjective variables (i.e., minutes of media exposure and specific types of COVID-prevention behaviors performed) and moderated effects (i.e., HR practices and each focal person's age) that cannot be explained by common method variance (Evans, 1985). The third limitation is regarding the mechanism of mortality salience triggered by COVID-19 news. The extant literature (Cohen et al., 2006; Courtney et al., 2020) suggests that mortality salience is prompted through anxiety associated with exposure to news of COVID-19 mortality. Our study assumes such anxiety and other negative psychological outcomes (Houston, 2009; Pfefferbaum et al., 2014) as the given mechanisms and did not directly test for their presence. For the fourth limitation, the correlational design means we cannot make causal conclusions about the links of COVID-19 media exposure with mortality salience and safety behaviors. Although the instructions, timing of the surveys, and examination of change in endogenous variables give us confidence that COVID-19 media exposure has temporal precedence over mortality salience and safety behaviors, we cannot conclude that the former causes the latter variables. Finally, although many news outlets consistently published negative COVID-19-related stories and presented a threatening view of the virus (Aslam et al., 2020; Deane et al., 2021; Sacerdote et al., 2020), left- and right-leaning media sources and their individual news anchors have been

shown to cover the severity of the threat to various degrees (Bursztyn et al., 2020). We did not address whether such political leanings can influence people's mortality salience or other relationships postulated. Future studies may benefit from examining specific media content people are exposed to and particularly focusing on the political spectrum of the media source.

Practical Implications

Organizations throughout the world have both a social responsibility and a vested interest in keeping their employees safe (Zohar and Polachek, 2014). This probably has never been more salient than during the COVID-19 pandemic. Employee safety behaviors are critical in containing the detrimental impacts of the COVID-19 pandemic. They are also key to safe and sustainable business operations (Hsu, 2022; Neal et al., 2000; Rosenberg, 2022). An important question in this respect is whether employees can be expected to engage in such behaviors regardless of organizational efforts to stimulate them. Because there is an abundance of media information about the threat of COVID-19 and about the safety behaviors that help manage this threat, the media is supposed to be a sufficient driver of employees' safety behaviors (DellaVigna and La Ferrara, 2015; Gunther, 1998). Yet, our findings suggest that although COVID-19 media exposure can raise the salience of the threat of COVID-19 and thus drive safety behaviors under some conditions (i.e., in organizations with fewer COVID-19 HR practices), COVID-19 HR practices help ensure relatively higher levels of safety behaviors regardless of the extent or type of media exposure.

Based on our finding regarding the interaction effect of organizations' HR practices on the media exposure–mortality salience relationship, one practical implication is that organizations must consider both external and internal factors when examining employee safety behaviors. People are faced with an abundance of information from various sources and, thus, they often come to work with pre-existing information and knowledge. These external sources of information likely influence employees' judgments and decisions about safety behaviors at work. We suggest that organizations should pay attention to these external sources of information and the accuracy of information expressed. If an external source provides false information about the seriousness of injuries or downplays the importance of safety behaviors, employees may engage in fewer safety behaviors. When external sources do not promote high levels of safety practices or when employees have minimal exposure to such information, organizations should be especially motivated to do so.

Second, the current focus on daily variations allows us to establish that with lower daily media exposure to health crises, organizational safety practices buffer against potential daily drops in mortality salience and thus safety behaviors. For COVID-19 safety behaviors, such daily drops are a concern because it takes an employee only one unfortunate encounter with the virus to be infected. As a result, the employee may suffer from negative health consequences and become a source of contagion for his or her coworkers. Accordingly, given that organizations have far more control over their health-related HR practices than over their employees' media exposure to health crises, the clear takeaway is for organizations to embrace such practices as social distancing rules, hygiene rules, and attendance rules to keep employees safe. Although at higher levels of media exposure to health crises, organizational HR practices do not appear to add much value, it is clear that such practices have value in keeping employee safety behaviors at a relatively high level. The results of our study also suggest that organizations that already engage in these practices and procedures are justified in their efforts.

Third, our finding regarding age as a moderator of the relationship between mortality salience and safety behaviors suggests that, to not be dependent on employees' discretionary exposure to the media, organizational safety-related HR practices are especially important to motivate safety behaviors of younger employees. Older employees show relatively higher levels of safety behaviors regardless of their levels of mortality salience, and thus regardless of how much they expose themselves to news that could drive up mortality salience. Organizations should note that there is more opportunity for organizational actions and practices to impact younger workers' safety behaviors. Awareness of this fact is especially important for industries that tend to be skewed in favor of a younger workforce (e.g., the information technology and dot-com sectors).

Conclusion

Ensuring employee safety should be of interest to organizations, managers, and employees. Drawing from TMT (Greenberg et al., 1986), we examined triggers of mortality salience and the impact of mortality salience on employee safety behavior during the peak of a health crisis. Employees' mortality salience is influenced by both the news media and the information signaled by an organization's HR practices. In addition, mortality salience drives younger but not older working adults' workplace safety behaviors. This work broadens our understanding of the positive implications of mortality salience in the workplace. Although the current study focuses on COVID-19 safety behaviors, its results have implications for other health crises and for organizations that have employees who commonly work in hazardous conditions.

Declarations

Conflict of Interest The authors declare no competing interests.

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