

# Distressed and Distracted by COVID-19 During High-Stakes Virtual Interviews: The Role of Job Interview Anxiety on Performance and Reactions

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Employers have increasingly turned to virtual interviews to facilitate online, socially distanced selection processes in the face of the COVID-19 pandemic. However, there is little understanding about the experience of job candidates in these virtual interview contexts. We draw from Event System Theory (Morgeson et al., 2015) to advance and test a conceptual model that focuses on a high-stress, high-stakes setting and integrates literatures on workplace stress with literatures on applicant reactions. We predict that when applicants ruminate about COVID-19 during an interview *and* have higher levels of COVID-19 exhaustion, they will have higher levels of anxiety during virtual interviews, which in turn relates to reduced interview performance, lower perceptions of fairness, and reduced intentions to recommend the organization. Further, we predict that three factors capturing COVID-19 as an enduring and impactful event (COVID-19 duration, COVID-19 cases, COVID-19 deaths) will be positively related to COVID-19 exhaustion. We tested our propositions with 8,343 job applicants across 373 companies and 93 countries/regions. Consistent with predictions, we found a positive relationship between COVID-19 rumination and interview anxiety, and this relationship was stronger for applicants who experienced higher (vs. lower) levels of COVID-19 exhaustion. In turn, interview anxiety was negatively related to interview performance, fairness perceptions, and recommendation intentions. Moreover, using a relevant subset of the data ( $n = 6,136$ ), we found that COVID-19 duration and deaths were positively related to COVID-19 exhaustion. This research offers several insights for understanding the virtual interview experience embedded in the pandemic and advances the literature on applicant reactions.

*Keywords:* COVID-19, anxiety, exhaustion, virtual interviews, interview performance

Even before COVID-19, job applicant anxiety was common, with 73% of candidates reporting that the job search process is one of the most stressful things in life (CareerBuilder, 2017). On March 11, 2020, the World Health Organization (WHO) declared COVID-19 a pandemic. The pandemic resulted in massive layoffs, increased

unemployment, and high levels of economic uncertainty (e.g., Eurostat, 2020; Kniffin et al., 2021; Maurer, 2021). This series of events heightened anxiety due to concerns regarding health and safety for oneself and others, ambiguity regarding established personal and work-related patterns of functioning, and apprehension regarding employment and financial stability. The stakes are high and for many applicants the path toward employment begins with an interview.

Although the study of interview anxiety and its implications for job applicants and organizations has never been more important, our understanding of this domain is relatively sparse even under normal circumstances. Not only do we know little about the factors that influence the experience of interview anxiety, but we also lack a solid understanding of the extent to which interview anxiety is related to outcomes that are important for applicants and organizations—namely, interview performance, perceptions of fairness, and intentions to recommend the organization. From the applicant's perspective, the competitive job market means that high performance in these stressful times is critical to securing a job. From the organization's perspective, it is important to ensure that candidates view the organization through a positive lens, as applicant reactions are related to organizational image, the hiring of top talent, and consumer purchase behaviors.

The present study advances both the anxiety and selection literatures. Drawing from Event System Theory (EST; Morgeson et al., 2015), we

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develop a conceptual model that focuses on a high-stakes, high-stress context—applicants applying for jobs during the midst of a global pandemic. Our model also aligns with literatures on workplace stress and resource depletion (Bakker & Demerouti, 2007; Hobfoll, 1989) to explicate how applicants' feelings of anxiety during interviews are shaped by two variables concerning applicants' experiences specific to the pandemic context (i.e., COVID-19 rumination and COVID-19 exhaustion) and the corresponding implications for applicant and organizational outcomes (see Figure 1). Our model predicts that when applicants ruminate about COVID-19 during their interviews and have higher levels of COVID-19 exhaustion, they will have higher levels of interview anxiety, which in turn relates to reduced interview performance, lower fairness perceptions, and reduced recommendation intentions. It further proposes that three variables aligned with EST—COVID-19 duration, COVID-19 cases, and COVID-19 deaths—will be associated with the experience of COVID-19 exhaustion.

Our research advances existing theory and research in three specific ways. First, it is one of the few studies to examine how interview anxiety relates to actual interview performance, fairness perceptions, and recommendation intentions in an actual hiring setting rather than in artificial research settings or using convenience samples with student populations. Indeed, nearly all of the research on interview anxiety has relied on scenario-based or lab studies using convenience samples (e.g., students), in which applicants do not experience an actual interview (Basch & Melchers, 2019; Powell et al., 2018). This is primarily because data from actual applicants are difficult to obtain. Nevertheless, this gap is problematic, as existing findings may misrepresent the magnitude of the relationships found among actual applicants (Chapman et al., 2005; Truxillo et al., 2009), hindering the advancement of theoretical models that reflect reality and limiting practical application.

Second, our work is firmly situated within the context of the current environment—the COVID-19 pandemic. Drawing from EST (Morgeson et al., 2015), we incorporate critical variables pertaining to the COVID-19 context and thus respond to calls for research that focuses on the context of anxiety (Morgeson & Ryan,

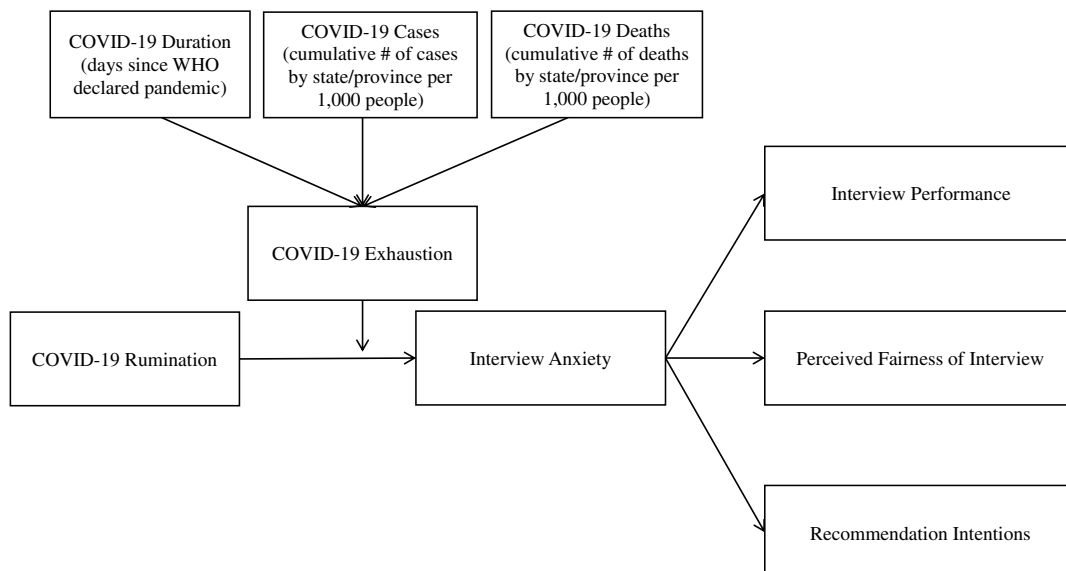
2009), as well as the context of the applicant experience (McCarthy, Bauer, Truxillo, Anderson, et al., 2017). We focus on COVID-19 rumination and COVID-19 exhaustion as two individual experiences that are embedded in a high-stress, high-stakes situation (job interviews amid the pandemic) and shape applicants' interview anxiety as a reaction to this situation. This is important, as rumination and exhaustion have been identified as critical considerations with respect to the current pandemic (Bakker & van Wingerden, in press; Caldas et al., 2021) and are salient to the study of anxiety (Kircanski et al., 2018; Koutsimani et al., 2019). Further, we focus on three factors related to the pandemic (i.e., COVID-19 duration, cases, and deaths) that capture components of EST, *event time* and *event strength*, and examine their effects on COVID-19 exhaustion.

Third, we focus our conceptual model on the experience of anxiety during a new but increasingly prevalent selection procedure, a virtual job interview. Our focus on virtual interviews is timely, given that 86% of organizations have implemented them in some form since the onset of COVID-19 (Bayern, 2020), and many organizations plan to continue to use them in the future (McFarlane, 2021). For example, the use of asynchronous video interviews (AVIs; Maurer, 2020) has surged. In AVIs, job candidates respond to a series of technology-mediated interview questions, and their responses are recorded and later evaluated by either a hiring manager or by means of artificial intelligence (AI). However, empirical research on virtual interviews is “mostly uncharted territory” (Lukacik et al., 2020, p. 11). As an attempt to fill this void, our study is the first to examine how interview anxiety relates to actual interview reactions and performance. Our focus on virtual interviews in a high-stakes selection setting enhances understanding of a selection tool that is increasingly used but not deeply understood or studied (Lukacik et al., 2020).

## Theoretical Background and Hypothesis Development

Theoretical models of job interview anxiety differentiate distinct types of anxiety (e.g., performance, social, appearance; McCarthy &

**Figure 1**  
Conceptual Model



Goffin, 2004). Performance anxiety in this context reflects distress related to interview performance, and applicants often note high anxiety around this selection event (Lukacik et al., 2020). This is consistent with theories of workplace anxiety, which focus on feelings of distress with respect to job-related performance (Calderwood et al., 2018; Cheng & McCarthy, 2018). In alignment with this literature, we conceptualize *job interview anxiety* as feelings of nervousness and apprehension about one's interview performance. Thus, congruent with past theory and research, interview anxiety reflects a domain-specific construct (performance in the interview) and represents a response to stressors in the form of a strain symptom (Jex, 1998).

Consistent with EST (Morgeson et al., 2015), our study is also firmly situated within an environmental context – the COVID-19 pandemic. EST (Morgeson et al., 2015) posits that discrete events that vary in terms of time, strength, and space play an important role in organizational life. While the pandemic is an event that is enduring in terms of event time, threatening in terms of event strength, and pervasive in terms of event space, it has also been experienced differently around the globe regarding how long it has lasted and how disruptive it is, creating a salient and impactful context wherein the job interview occurs. Applicants' experience with this context has high relevance for the study of applicant anxiety and associated outcomes. Moreover, literatures on workplace anxiety (e.g., Bliese et al., 2017; Cheng & McCarthy, 2018) and applicant reactions (e.g., Hausknecht et al., 2004; McCarthy, Bauer, Truxillo, Anderson, et al., 2017) highlight the role played by person and environment factors in the experience of anxiety. However, despite calls for research, empirical studies have tended to focus solely on the role of environmental conditions such as the type of test applicants take or solely on individual differences such as personality (McCarthy, Bauer, Truxillo, Anderson, et al., 2017).

Our focus on COVID-19 rumination moves beyond past models, as it reflects repetitive cognitions experienced by applicants (a person-based factor; Baranik et al., 2017; Nolen-Hoeksema et al., 2008) that occur with respect to the current pandemic (an environment-based factor). Similarly, COVID-19 exhaustion reflects feelings of mental depletion (a person-based factor; Maslach et al., 2001) that occur with respect to the pandemic (an environment-based factor). Rumination and exhaustion are central to understanding applicant anxiety in general as well as in the midst of COVID-19, as each has been associated with reductions in overall physical and mental well-being since the onset of the current pandemic (e.g., Bakker & van Wingerden, in press; Barello et al., 2020; Meseguer de Pedro et al., 2021). As outlined below, each is likely to play a critical role in levels of interview anxiety among applicants faced with the challenge of virtual job interviews. Thus, our examination of individual experiences situated within the context of the pandemic—COVID-19 rumination and COVID-19 exhaustion—aligns with existing literature and represents a significant extension of past work.

Rumination is one of the driving forces of anxiety (Watkins, 2008). This occurs because continuous repetitive thoughts about threatening events have been found to interfere with the ability to focus on current tasks and solve problems effectively (Nolen-Hoeksema et al., 2008), which may trigger feelings of anxiety about the capacity to perform well. Applied to the current context, this means that applicants who are unable to take their mind off the threat of COVID-19 during the interview are more likely to feel nervous about not performing well. Although research is yet to examine this in the context of job interviews, there is work demonstrating that rumination predicts levels of general anxiety (Calmes & Roberts, 2007), clinical anxiety (Nolen-Hoeksema,

2000), and test-related anxiety (Krys et al., 2020). In further alignment with our theoretical framework, rumination that specifically pertains to a significant environmental event can serve as an antecedent of anxiety. Our focus on COVID-19 rumination is an example of such a relationship: Applicants may find themselves unable to stop thinking about the threat (Demskey et al., 2019; Martin & Tesser, 1996)<sup>1</sup> and may experience pandemic-related rumination during the interview, which in turn may be associated with higher job interview anxiety.

*Hypothesis 1:* COVID-19 rumination is associated with interview anxiety.

We further predict that this relation between COVID-19 rumination and the experience of interview anxiety will be exacerbated to the extent that applicants are also experiencing emotional exhaustion. Emotional exhaustion is a state of mental depletion resulting from demanding experiences (Halbesleben & Bowler, 2007; Liu et al., 2015). In our research context, a high level of COVID-19 exhaustion may indicate that COVID-19 (and its associated resource threat and loss) has resulted in a substantial depletion in job applicants' regulatory resources prior to or during the virtual job interviews (Hobfoll, 1991). Thus, when job applicants are unable to stop thinking about COVID-19 and at the same time are experiencing emotional exhaustion as a result of COVID-19, their resources are likely to be depleted and their ability to focus on the interview is further compromised, resulting in higher levels of interview anxiety. On the other hand, low levels of COVID-19 exhaustion are associated with higher levels of regulatory resources for the job applicant, such that COVID-19 rumination will have a weaker influence on interview anxiety.

*Hypothesis 2:* COVID-19 exhaustion will interact with COVID-19 rumination to affect interview anxiety, such that rumination's effects on anxiety will be stronger under conditions of higher COVID-19 exhaustion and weaker under conditions of lower COVID-19 exhaustion.

In the second part of our model, we propose that interview anxiety will be negatively related to three critical outcomes for applicants and organizations—job applicant interview performance, fairness perceptions, and recommendation intentions. A number of studies have examined the effect of interview anxiety on interview performance, and a recent meta-analysis found a significant negative association between the two (Powell et al., 2018). Yet, critically, there have been no studies that examine this relationship in a field setting with actual job applicants. Instead, nearly all studies have used mock interviews with student populations,<sup>2</sup> leading to calls for research that assesses interview anxiety in real, high-stakes field

<sup>1</sup> While interview anxiety focuses on anticipated threats, such as implications of doing poorly on the job interview and not getting the job, rumination is more present-oriented and in this case reflects a focus on what is happening with respect to the current pandemic (see Nolen-Hoeksema et al., 2008).

<sup>2</sup> To date, there have been 11 peer-reviewed studies of students conducting mock interviews, and one study of mock interviews in a field setting (Banki & Latham, 2010). Only four studies have examined job applicants, three of which have examined students applying for interviews orchestrated via career counseling services at their respective universities (Keenan, 1978; McCarthy & Goffin, 2004; Stumpf et al., 1987) and one study of students applying for residence assistance positions (Schneider et al., 2019). A full list of these studies is available from the first author by request.

settings (Powell et al., 2018). Relevant to our study, the relationship between anxiety and interview performance has also not been examined in actual virtual interviews, nor has it been examined under such stressful circumstances as a global pandemic.

Nevertheless, these earlier studies are informative because they suggest that interview anxiety has a negative relation with interview performance. This is not surprising, as anxiety affects thoughts and behaviors. With respect to thoughts, theories of interview anxiety (McCarthy & Cheng, 2018) and general theories of anxiety (Cheng & McCarthy, 2018; Eysenck et al., 2007) indicate that anxiety directs attention away from the task at hand such that individuals may have difficulty performing well. With respect to behaviors, applicants with high interview anxiety are less likely to engage in impression management (Budnick et al., 2019) and more likely to engage in deleterious nonverbal behaviors, such as averted eye contact and shaky speech (DeGroot & Gooty, 2009; Feiler & Powell, 2016), which in turn affect applicant performance in the interview (Barrick et al., 2009).

*Hypothesis 3:* Interview anxiety is associated with lower performance in virtual job interviews.

It is also critical to consider the effects of interview anxiety on key issues for organizations, such as applicants' fairness perceptions and recommendation intentions. Fairness perceptions reflect the extent to which applicants view the selection process as fair (Bauer et al., 2001), while recommendation intentions, known as Net Promoter Scores in the corporate realm (Reichheld, 2003), assess the extent to which individuals will recommend the organization to others. Both constructs have been extensively used by firms (Martin, 2020; Puskoor, 2020) to assess the extent to which employees, applicants, and customers perceive an organization as an attractive place to work or do business.

Literatures on applicant reactions hold that when applicant anxiety is high, fairness perceptions and recommendation intentions will be low (Hausknecht et al., 2004; McCarthy, Bauer, Truxillo, Anderson, et al., 2017). In part, this is because anxiety occurs when individuals are threatened and fear losing valuable resources—in the current situation, when a job is not acquired (Lazarus & Lazarus, 1994). Specifically, anxiety causes them to be on high alert and directs their focus to the source of the threat (Bar-Haim et al., 2007). As a result of this anxious state, individuals pay close attention to the details of the job interview and become particularly sensitive to the potential threats (e.g., unfair treatment) during the process (Schmitt & Dörfel, 1999). Anxiety may also trigger a psychological defense process to protect self-esteem and maintain a positive self-view (Allport, 1954; Kouchaki & Desai, 2015). We argue that when an applicant feels anxious about not performing well in the interview, they engage in ego protection by justifying that the interview is unfair. In line with our reasoning, research shows that general levels of anxiety are negatively related to perceptions of justice (Bondü & Inerle, 2020; Lind & Van den Bos, 2002) and computer-related anxiety is negatively related to fairness perceptions in a simulated selection paradigm (Wiechmann & Ryan, 2003).

Turning to recommendation intentions, anxiety is also associated with avoidance-oriented behavior (Dymond & Roche, 2009) as a way to avoid or escape from negative stimuli (Bauer & Spector, 2015). In the case of job interviews, this means that anxious applicants are more likely to want to avoid the organization to which they are applying—thus their recommendation intentions are

likely to be low. In line with this, research has found that applicant test anxiety is positively related to withdrawal from a selection process (Schmitt & Ryan, 1997) and negatively related with attitudes toward the organization (Van Esch et al., 2019).

Applied to the current context, interview anxiety is expected to relate to the perceived fairness of the interview and recommendation intentions. To our knowledge, only two studies have investigated the relationship between interview anxiety and fairness perceptions. While neither found significant results, neither considered virtual interviews or the broader environmental context (Banki & Latham, 2010; Melchers et al., 2021). Further, no studies have examined the relation between applicant anxiety and recommendation intentions, let alone in virtual interview settings.

*Hypothesis 4:* Interview anxiety is associated with (a) lower fairness perceptions and (b) lower recommendation intentions.

In sum, Hypotheses 1–4 suggest that COVID-19 exhaustion moderates the relation between COVID-19 rumination and interview anxiety and that, in turn, interview anxiety is related to interview performance, fairness perceptions, and recommendation intentions. Thus, we posit:

*Hypothesis 5:* COVID-19 exhaustion will moderate the indirect relation between COVID-19 rumination and interview performance, such that the indirect effect is stronger (vs. weaker) when COVID-19 exhaustion is higher (vs. when it is lower).

*Hypothesis 6:* COVID-19 exhaustion will moderate the indirect relation between COVID-19 rumination and (a) perceived fairness, such that the indirect effect is stronger (vs. weaker) when COVID-19 exhaustion is higher (vs. when it is lower) and (b) recommendation intentions, such that the indirect effect is stronger (vs. weaker) when COVID-19 exhaustion is higher (vs. when it is lower).

## The Role of COVID-19 Event Duration and Strength

In line with EST, the COVID-19 pandemic is viewed as a high-duration and strong event. By embedding our work directly within COVID-19, we address the need to examine applicant reactions under broad, system-level conditions (McCarthy, Bauer, Truxillo, Anderson, et al., 2017). The only such metalevel factor that has received much scrutiny in the applicant reaction literature is applicant country (e.g., Anderson et al., 2010). This is unfortunate, because, as highlighted in theories of stress (e.g., Bakker & Demerouti, 2007; Hobfoll, 1989; Maslach et al., 2001), traumatic environmental events can have an impact on emotional exhaustion via resource depletion. Traumatic environmental events are those that happen unexpectedly, make excessive demands, and threaten resources (e.g., wars, terrorist attacks, natural disasters; see Hobfoll, 1991; Hobfoll et al., 1995; Vinokur et al., 2011). The COVID-19 pandemic is a vivid example of a traumatic event that has threatened individual resources by increasing feelings of uncertainty and loss regarding illness and death, job security, social connections, and much more (Kniffin et al., 2021). The threat and loss associated with these resources is likely to have a direct impact on the extent to which individuals experience emotional exhaustion, because by its very nature, emotional exhaustion reflects a state wherein individuals feel drained, depleted, and fatigued by

excessive demands on resources (Halbesleben et al., 2013; Hobfoll & Freedy, 1993). Empirical research supports these arguments, as extreme environmental events, such as war and job furloughs, have been found to have a direct impact on the experience of emotional exhaustion (see Halbesleben et al., 2013; Vinokur et al., 2011). Moreover, evidence suggests that aspects of the COVID-19 pandemic are increasing emotional exhaustion among working employees (Caldas et al., 2021; Lin et al., 2021; Moreno-Jiménez et al., 2021).

Although the COVID-19 pandemic is a shared event for everyone during this difficult time, the extent to which this pandemic exerts demands on one's resources and results in COVID-19 exhaustion may vary. According to EST (Morgeson et al., 2015), an event's impact depends on event time (when an event occurs and how long it lasts), event strength (the extent to which an event is salient and commands attention), and event space (where an event originates). In this study, we focus on event strength and event time, as there is little variance with respect to event space—COVID-19 exists at the environment level and has become a global phenomenon. When an event lasts longer and features higher salience, it requires individuals to allocate more resources, attention, and effort to respond to it (Morgeson et al., 2015), thereby resulting in higher levels of exhaustion. Applying the rationales of EST to the current research context, we focus on *COVID-19 duration* (i.e., the cumulative number of days by the time of interview since the outbreak was declared by WHO) to capture event time, as well as *COVID-19 cases* (i.e., the cumulative number of cases in the applicant's location) and *COVID-19 deaths* (i.e., the cumulative number of deaths in the applicant's location) by the time of interview to capture event strength. Based on EST, we argue that applicants for whom COVID-19 is enduring longer and is more threatening (i.e., more COVID-19 cases and deaths in the surroundings) may have consumed a larger amount of resources to respond to and deal with COVID-19, rendering higher levels of COVID-19 exhaustion at the time of interview. Hence, we propose that each of these event-based factors will be positively related to COVID-19 exhaustion.

*Hypothesis 7:* (a) COVID-19 duration, (i.e., cumulative number of days since outbreak), (b) COVID-19 cases, (i.e., cumulative number of cases by location), and (c) COVID-19 deaths (i.e., cumulative number of deaths by location) will be positively associated with COVID-19 exhaustion.

## Method

### Participants and Procedure

We obtained data from job applicants who completed a virtual interview with their prospective employers on a platform provided by a US-based recruiting technology company. Job applicants were given a survey invitation at the end of their interview, which was administered between April 29 and August 3, 2020. We assured applicants that their survey responses would be kept confidential and used for research purposes only and that their survey responses would have no impact on their job application results. Survey invitations were given to a total of 736,559 applicants undergoing a virtual interview (specifically, an AVI) on the platform. Of those, 9,619 applicants interviewing with 395 organizations agreed to participate and were directed to the survey. In the end, 8,343 applicants (response rate = 1.1%)<sup>3</sup> interviewing for 373 organizations in 73 countries

(ranging from Albania to Zimbabwe) completed the survey. Of the 8,343 participants, 74% completed the interview in the U.S. or Canada, and 43% indicated that they were employed at the time of the interview. Of those who were employed, 21% indicated they were in managerial positions (79% were not), and 42% were currently working from home (58% were working remotely). According to a demographic prediction algorithm (please see Appendix A for details), participants' average (predicted) age was 37.23 years ( $SD = 12.46$ ), 52% of them were (predicted) female, 49% of them were (predicted) White, 20% of them were (predicted) Black, 9% of them were (predicted) Asian, and 18% were (predicted) Hispanic. Participants completed surveys measuring COVID-19 rumination, COVID-19 exhaustion, interview anxiety, perceived fairness, and recommendation intentions. The recruiting technology company provided data on interview performance with the job applicants' and employers' consent. This research was part of a larger data collection (University of Toronto IRB #39806; Applicant Reactions to Virtual Interviews in the Midst of a Global Pandemic).

### Measures

Unless otherwise noted, participants rated the extent to which they agreed with each item on a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). Items are presented in Appendix B. In alignment with general measures of rumination (McCullough et al., 2007), *COVID-19 rumination* was assessed with three items ( $\alpha = .79$ ) adapted from a measure of job applicant off-task processing (McCarthy et al., 2009). *COVID-19 exhaustion* was measured with four items ( $\alpha = .89$ ) adapted from Wharton (1993) to reflect applicants' exhaustion as a result of COVID-19. *Interview anxiety* was assessed with the six-item ( $\alpha = .89$ ) performance anxiety subscale from McCarthy and Goffin (2004). *Interview performance* was a percentile score standardized within each organization by an automated scoring algorithm, indicating how well the applicant performed in the virtual interview compared to other candidates applying for the same kinds of jobs in the organization. Scores ranged from 0 to 1 (higher value = better performance). Scores were based on two factors: Organization-specific machine learning algorithms where applicants' interview responses were used to predict key criterion measures and nonorganization-specific machine learning algorithms built to predict ratings of key competencies as demonstrated in the interview.<sup>4</sup> *Perceived fairness* was assessed

<sup>3</sup> The gender composition of our sample (52% female) was similar to the gender composition of the AVI population, 51% female;  $\chi^2(1) = 8.88$ ,  $p < .01$ ;  $\phi = 0.01$ . With respect to age, respondents were 7 years older ( $M = 37.23$ ,  $SD = 12.46$ ) than nonrespondents,  $M = 30.13$ ,  $SD = 8.87$ ;  $t(8,352) = 51.97$ ,  $p < .01$ , Cohen's  $d = 0.57$ . Meaningful differences were also found with respect to the ethnic representation of survey participants,  $\chi^2(3) = 686.97$ ,  $p < .01$ ,  $\phi = 0.82$ . Specifically, survey participants were less likely to be Asian (9% of survey participants, 17% of AVI population) and more likely to be White (51% of survey participants, 40% of AVI population). Small differences were found for Blacks (21% of survey participants, 19% of AVI population) and Hispanics (18% of survey participants, 25% of AVI population). Survey participants also had significantly higher interview performance scores ( $M = .53$ ,  $SD = 0.29$ ) compared to the AVI population ( $M = .51$ ,  $SD = 0.29$ ), although this effect was small in magnitude,  $t(1775) = 3.33$ ,  $p < .01$ , Cohen's  $d = 0.08$ .

<sup>4</sup> A complete validation report for the interview performance measure is available from the first author by request and demonstrates that this measure exhibits strong psychometric properties. In the majority of cases, interview and survey questions were aligned with the language in the country of origin.

with two items (Spearman-Brown = .79) from Bauer et al. (2001) SPJS.<sup>5</sup> *Recommendation intentions* were assessed using (Reichheld, 2003; 0 = *not at all likely*, 10 = *extremely likely*): “Based on the experience you just had, how likely are you to recommend [employer’s name] to a friend or colleague?”

In order to examine aspects of EST and our associated hypotheses, we focused on Canada and the United States ( $n = 6,136$ ) rather than the full sample as we did not have data available on the state or province where participants in other countries completed their interview. *COVID-19 duration* was assessed by computing the number of days since the COVID-19 outbreak was declared a pandemic by the WHO (March 11, 2020) relative to each applicant’s interview date. *COVID-19 cases* (number of COVID-19 cases) and *COVID-19 deaths* (number of COVID-19 deaths) were assessed for the 50 states and District of Columbia in the United States as well as the 10 provinces and 3 territories in Canada on each day during the timespan of virtual job interviews in our dataset (April 29, 2020 to August 3, 2020). The United States’ state-level data were obtained from an ongoing open-access data repository released by the New York Times (<https://github.com/NYtimes/covid-19-data>), and the Canadian province-level data were obtained from Berry et al. (2020; <https://github.com/ccodwg/Covid19Canada>). We also obtained the state-/province-level population data in both countries (Statistics Canada, 2021 and United States Department of Agriculture & Economic Research Service, 2020 respectively). The cumulative cases and deaths (per 1,000 people) were computed by dividing the cumulative number of cases and deaths by the state/province population and multiplying by 1,000.

### Control Variables

We included several applicant (predicted age, predicted gender, predicted race, location, employment status, telework status, and managerial status) and employer (employer size and industry sector) characteristics as control variables as they may impact interview anxiety and interview performance (e.g., Powell et al., 2018). We also controlled for the date of the interview due to the dynamic nature of the pandemic. Please see Appendix A for additional details.

## Results

Table 1 shows means, standard deviations, reliabilities, and intercorrelations among study variables. In light of the nested data structure (job applicants nested in employers), we followed prior research (e.g., Liu et al., 2015) and used the sandwich estimator in conducting analyses with *Mplus* 8.1 (Muthén & Muthén, 1998–2017) to control for organization-based clustering.<sup>6</sup> The missing values in variables were modeled using a full-information maximum likelihood estimator.

We first conducted a confirmatory factor analysis (CFA) to examine whether our measures captured distinct constructs and findings supported our proposed model.<sup>7</sup> We then conducted path modeling analyses to test our hypotheses. Predictors were mean centered before creating the interaction term or when being entered into the model. Unstandardized path model results are shown in Table 2 and shown in Figure 2.<sup>8</sup> Our findings remain the same regardless of whether our control variables are included or not.

We found that COVID-19 rumination was positively related to interview anxiety ( $\gamma = .10, p < .001$ ), and COVID-19 exhaustion

moderated this relationship ( $\gamma = .03, p = .004$ ). The interaction pattern is shown in Figure 3. Simple slope analyses revealed that the positive effect of COVID-19 rumination on interview anxiety was stronger ( $\gamma = .13, p < .001$ ) when COVID-19 exhaustion was higher (1 *SD* above the mean); this effect was weaker ( $\gamma = .07, p = .01$ ) when COVID-19 exhaustion was lower (1 *SD* below the mean). These results supported Hypotheses 1 and 2. Further, interview anxiety was negatively related to interview performance ( $\gamma = -.03, p = .01$ ),<sup>9</sup> perceived fairness ( $\gamma = -.23, p < .001$ ), and

<sup>5</sup> In addition to the two items used in our analysis, we also measured employees’ fairness perceptions about the application and hiring process in general with three items: “I have been treated politely during the virtual job interview and selection process,” “The recruiters have been considerate to me during the application and hiring process,” and “The recruiters treated me with respect during the application and hiring process.” Whether using this three-item scale as an alternative measure of perceived fairness or combining this three-item scale with the two perceived fairness items used in our analysis, our findings and conclusions remained the same. For parsimony and to be consistent with our theorizing, we limit the perceived fairness items to two items specifically pertaining to the virtual job interview itself.

<sup>6</sup> We also conducted a robustness check by estimating the path model with multilevel modeling; all findings remained the same (multilevel modeling excluded organizations with fewer than two applicants from the data). For brevity and to preserve the largest sample size possible, we report results using the sandwich estimator below.

<sup>7</sup> We conducted CFA to examine whether our measures of COVID-19 rumination, COVID-19 exhaustion, interview anxiety, and perceived fairness captured distinct constructs. Results showed that the proposed four-factor model (loading the items onto four corresponding latent factors) fit the data well;  $\chi^2(df = 84) = 3282.10$ , CFI = .94, TLI = .93, RMSEA = .07, SRMR = .03. All standardized factor loadings were significant ( $p < .001$ ). This model fit the data better than alternative three-factor models (loading items measuring two of the four variables onto one common latent factor),  $\Delta\chi^2s [\Delta df = 3]$  ranged from 3636.91 to 12403.69,  $ps < .001$ . These results suggest that our measures captured distinct constructs. In line with our path modeling analysis, the CFAs were conducted with the sandwich estimator to account for organizational-based clustering. As a robustness check, we conducted another set of CFAs without the sandwich estimator. The resulting four-factor model still fit the data well and was significantly better than any alternative three-factor or one-factor models. All robustness check results are available from the first author upon request.

<sup>8</sup> We also tested two alternative models in which the orders of variables were reversed, such that AVI interview anxiety served as the antecedent. In the first, interview anxiety was positioned as an antecedent of COVID-19 rumination, with COVID-19 exhaustion positioned as a second stage moderator of the outcome variables. While this model found that interview anxiety was positively related to rumination; rumination was not related to interview performance or recommendation intentions. Further, rumination was positively related to perceived fairness, which was opposite to our expectation. Finally, COVID-19 exhaustion did not emerge as a significant moderator. In the second *posthoc* analysis, interview anxiety was positioned as an antecedent of COVID-19 exhaustion, with COVID-19 rumination positioned as the second-stage moderator. Results indicated that while interview anxiety was positively related to COVID-19 exhaustion, exhaustion in turn was significantly and negatively related to perceived fairness and recommendation intentions. However, COVID-19 exhaustion was also found to be positively related to interview performance, which is opposite of what we would expect. Further, COVID-19 rumination did not emerge as a significant moderator. With respect to the unexpected positive correlations, we note that they (a) theoretically did not form plausible predictions, and (b) empirically did not demonstrate a strong pattern in line with the zero-order correlations (neither had a positive and significant zero-order correlation). Combined, these findings do not support reversing the order of constructs and help substantiate our conceptual model. Detailed results are available from the first author upon request.

<sup>9</sup> We also tested for a curvilinear effect between interview anxiety and performance. The quadratic term was negative, suggesting the shape of an inverted U, but findings were not significant ( $\gamma = -.003, p = .61$ ).

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

Variable	M	SD	1	2	3	4	5	6	7	8	9	10
1. Age	37.23	12.46	—									
2. Gender	.52	.50	-.09**	—								
3. Location, EMEA	.12	.33	-.07**	-.05**	—							
4. Location, APAC	.10	.30	-.15**	-.03**	-.12**	—						
5. Race, Black	.21	.41	-.06**	.03**	-.08**	-.13**	—					
6. Race, Hispanic	.18	.39	-.23**	-.04**	.03*	-.09**	-.24**	—				
7. Race, Asian	.09	.29	-.22**	-.02*	-.05**	.65**	-.17**	-.16**	—			
8. Employment status	.43	.50	.04**	.01	-.00	-.03**	.00	-.04**	-.02	—		
9. Telework status	.42	.49	.01	.04**	.09**	.11**	-.12**	-.05*	.12**	-.19	—	
10. Managerial status	.21	.40	.09**	-.11**	.13**	.13**	-.08**	-.07**	.13**	.12	.13	—
11. Employer size	10.46	2.02	-.14**	-.06**	.02	.17**	.01	.10**	.19**	-.02*	-.16**	-.06**
12. Industry, sales	.29	.45	-.10**	-.04**	.06**	-.15**	-.07**	.22**	-.11**	-.07**	-.21**	-.04
13. Industry, service	.22	.41	-.02*	-.08**	-.02	.29**	.13**	-.08**	.24**	-.05**	-.06*	.04
14. Industry, finance	.12	.32	-.04**	.02*	-.02	-.03**	-.01	-.02	.02*	.03**	.15**	-.01
15. Industry, public administration	.10	.30	.10**	.13**	-.10**	-.08**	-.05**	-.09**	-.08**	.08**	.21**	-.02
16. Industry, manufacturing	.10	.29	.04**	-.11**	.00	.04**	-.03**	-.03*	-.03**	.00	-.04*	.00
17. COVID-19 rumination	1.76	1.03	-.14**	-.01	-.02*	.10**	.02	.03**	.13**	.01	-.03	.02
18. COVID-19 exhaustion	2.17	1.14	-.16**	.02	.04**	.16**	-.10**	-.01	.18**	.01	.11**	.02
19. Interview anxiety	2.89	1.14	-.10**	.08**	.04**	.08**	-.05**	.01	.08**	-.01	.02	-.03
20. Interview performance	.53	.29	.06**	.00	-.08	.01	-.11**	-.06*	.02	.04	.07	.03
21. Perceived fairness	4.50	.78	-.05**	-.00	-.06**	.01	.09**	.04**	.00	-.02	-.09**	-.03
22. Recommendation intentions	9.29	1.37	.02*	.05**	-.01	-.05**	.05**	.07**	-.05**	-.02*	-.07**	-.00
23. COVID-19 duration <sup>a</sup>	102.32	25.99	.01	.02	-.06**	-.01	-.01	.00	-.00	.01	-.09**	-.00
24. COVID-19 cases <sup>a,b</sup>	7.52	5.40	.02	.01	—	—	.05**	-.02	-.01	.04**	-.02	.03
25. COVID-19 deaths <sup>a,b</sup>	.29	.37	.04**	-.02	—	—	.06**	-.08**	.03*	.04**	.05*	.04

Variable	11	12	13	14	15	16	17	18	19	20	21	22	23	24
11. Employer size	—													
12. Industry, sales	.26**	—												
13. Industry, service	.15**	-.34**	—											
14. Industry, finance	.01	-.23**	-.19**	—										
15. Industry, public administration	-.41**	-.21**	-.17**	-.12**	—									
16. Industry, manufacturing	-.07**	-.21**	-.17**	-.12**	-.11**	—								
17. COVID-19 rumination	.07**	.02	.06**	-.03**	-.01	-.05**	(.79)							
18. COVID-19 exhaustion	.02	-.07**	.03**	.04**	.05**	-.04**	.38**	(.89)						
19. Interview anxiety	.02	-.01	-.01	.01	.00	.02	.22**	.36**	(.89)					
20. Interview performance	-.09*	-.09*	.07	-.06	-.07**	-.06	-.01	.04	-.09**	—				
21. Perceived fairness	.08**	.05**	.05**	-.02*	-.07**	-.02*	-.04**	-.17**	-.35**	.01	(.79) <sup>c</sup>			
22. Recommendation intentions	.06**	.07**	-.05**	.01	-.07**	.01	-.08**	-.18**	-.20**	-.02	.47**	—		
23. COVID-19 duration <sup>a</sup>	.02	.06**	-.08**	.01	.01	-.01	-.00	.01	.02	-.04	.00	.02	—	
24. COVID-19 cases <sup>a,b</sup>	.03*	-.03**	.03*	.05**	-.01	-.02	.00	.01	.02	.01	-.01	.00	.60**	—
25. COVID-19 deaths <sup>a,b</sup>	.00	-.12**	.08**	.08**	-.02	.01	-.01	.03**	.01	.04	-.01	-.03*	.16*	.72**

Note. Pairwise *N*s = 1,775–8,343. Cronbach’s alphas are presented in the parentheses along the diagonal when applicable. Age, gender, and race were predicted by computer-based algorithms (see Appendix A for details). Age of the applicant was in years. Gender = 1 for female applicants and 0 for male applicants. Two dummy variables were created to represent the locations where participants took the interview, with the AMER area being the reference group. AMER = North, Central, South America; EMEA = Europe, Middle East, Africa; APAC = Asia Pacific, Japan. Three dummy variables were created to represent Black, Hispanic, or Asian respondents, with White = 0 respondents being the reference group. Employment status = 1 for applicants who were employed at the time of interview, and 0 for those who were not employed. Telework status = 1 for applicants who worked from home at the time of interview, and 0 for those who did not work from home. Managerial status = 1 for applicants who worked on a managerial position at the time of interview, and 0 for those who were entry-level employees. Employer size was the number of employees in the employer, transformed with a logarithm function. Five dummy variables were created to represent six industry sectors to which the employers belonged. COVID-19 duration = the number of days between March 11, 2020, when the COVID-19 outbreak was declared as a pandemic by the WHO and the applicants’ interview date; COVID-19 cases = area cumulative COVID cases (/1,000 people) in the state/province on the interview date; COVID-19 deaths = area cumulative COVID deaths (/1,000 people) in the state/province on the interview date.

<sup>a</sup> Number of COVID cases and deaths were divided by population in that state/province. <sup>b</sup> These correlations with other variables were based on a sample of 6,136 participants who took the virtual job interview in the United States or Canada. Because all participants in this subsample took the interview in AMER area, there was no correlation between these two variables and location (EMEA/APAC). <sup>c</sup> Reliability computed with Spearman-Brown formula for two-item scale.

\* *p* < .05. \*\* *p* < .01, two-tailed.

recommendation intentions ( $\gamma = -.20, p < .001$ ), supporting Hypotheses 3 and 4.

We tested the moderated mediation hypotheses (Hypotheses 5 & 6) using the 20,000-repetition Monte Carlo procedure in *R* (Preacher et al., 2010; see Table 3). The indirect effect of COVID-19

rumination on interview performance via interview anxiety was stronger, 95% CI [–.007, –.001], when COVID-19 exhaustion was higher (+1 *SD*) and was weaker, 95% CI [–.005, –.0002], when COVID-19 exhaustion was lower (–1 *SD*). The difference between these two conditional indirect effects was significant, as the 95% CI,

**Table 2**  
Unstandardized Path Modeling Results

Variable	Interview anxiety			Interview performance			Perceived fairness			Intention to recommend		
	Estimate	SE	<i>p</i>	Estimate	SE	<i>p</i>	Estimate	SE	<i>p</i>	Estimate	SE	<i>p</i>
Intercept	2.88**	.02	<.001	.62**	.04	<.001	5.18**	.05	<.001	9.89**	.05	<.001
Control variables												
Age	-.00**	.00	.01	.00	.00	.99	-.00**	.00	<.001	.00*	.00	.02
Gender	.17**	.03	<.001	.00	.01	.78	.04*	.02	.04	.21**	.03	<.001
Location, EMEA	.14**	.04	<.001	-.11*	.05	.02	-.08*	.04	.02	-.00	.05	.94
Location, APAC	.11*	.06	.04	-.04	.07	.57	.07	.05	.17	-.04	.07	.57
Race, Black	-.04	.05	.35	-.12**	.02	<.001	.13**	.02	<.001	.18**	.03	<.001
Race, Hispanic	-.00	.03	.92	-.06**	.02	.001	.09**	.02	<.001	.28**	.03	<.001
Race, Asian	-.04	.07	.52	-.03	.06	.63	.04	.04	.32	.11	.08	.14
Employment status	-.03	.04	.35	.03	.03	.22	-.04	.04	.38	-.09	.07	.18
Telework status	-.04	.04	.36	.05*	.02	.02	-.09**	.03	.001	-.12*	.05	.01
Managerial status	-.09	.05	.07	.00	.04	.95	-.02	.04	.69	.09	.06	.14
Employer size	.00	.01	.99	-.02*	.01	.02	.02*	.01	.01	.03*	.01	.01
Industry, sales	.03	.07	.65	-.11*	.05	.02	.01	.04	.70	.06	.05	.29
Industry, service	-.03	.07	.66	-.03	.05	.54	.02	.04	.60	-.17**	.06	.004
Industry, finance	.05	.09	.61	-.16**	.05	.002	-.02	.04	.69	.06	.06	.34
Industry, public administration	-.01	.09	.96	-.25**	.06	<.001	-.05	.08	.52	-.17	.17	.32
Industry, manufacturing	.17	.09	.06	-.16	.08	.06	-.02	.06	.76	.08	.07	.25
COVID-19 duration	.00	.00	.32	-.00	.00	.29	-.00	.00	.86	.00	.00	.30
Predictors, interaction term, and mediator												
COVID-19 rumination	.10**	.02	<.001	-.001	.01	.94	.03**	.01	.001	.01	.02	.68
COVID-19 exhaustion	.31**	.01	<.001	.02*	.01	.02	-.05**	.01	<.001	-.12**	.02	<.001
COVID-19 rumination × COVID exhaustion	.03**	.01	.004	.00	.01	.65	.01	.01	.26	-.03	.01	.07
Interview anxiety				-.03**	.01	.01	-.23**	.02	<.001	-.20**	.02	<.001
R <sup>2</sup> /ΔR <sup>2</sup>	15%**/13%**			11%**/2%**			15%**/13%**			8%**/5%**		

Note.  $N = 8,343$ . Unstandardized coefficients are reported.  $\Delta R^2$  was computed by comparing the estimated (full) model with a baseline model that only contained control variables as predictors. Race was coded 1 if the predicted race was positive for each one listed and 0 if not. COVID-19 duration = the number of days between March 11, 2020, when COVID-19 outbreak was declared as a pandemic by the WHO and the applicants' interview date. EMEA = Europe, Middle East, Africa; APAC = Asia Pacific, Japan.

\*  $p < .05$ . \*\*  $p < .01$ , two-tailed.

[-.004, -.0004], did not contain zero. Thus, Hypothesis 5 was supported. Similarly, the indirect effect of COVID-19 rumination on perceived fairness was stronger, 95% CI [-.038, -.025], when COVID-19 exhaustion was higher and was weaker, 95% CI [-.025, -.004], when COVID-19 exhaustion was lower. The difference between these two conditional indirect effects was significant, 95% CI [-.027, -.005]. The indirect effect of COVID-19 rumination on recommendation intentions was stronger, 95% CI [-.034, -.019], when COVID-19 exhaustion was higher and was weaker, 95% CI [-.022, -.004], when COVID-19 exhaustion was lower. The difference between these two conditional indirect effects was significant, 95% CI [-.024, -.004]. Hence, Hypotheses 6a and 6b were supported.

Hypothesis 7 was tested with our Canadian and U.S. job applicants (74% of sample,  $n = 6,136$ ). We estimated a path model that included effects of COVID-19 duration, COVID-19 cases, and COVID-19 deaths on COVID-19 exhaustion (see Figure 4). Control variables were consistent with the previous analyses. Figure 4 shows the unstandardized path model results. Consistent with Hypotheses 7a and 7c, COVID-19 duration ( $\gamma = .002$ ,  $p = .01$ ) and COVID-19 deaths ( $\gamma = .20$ ,  $p = .004$ ) were positively related to COVID-19 exhaustion. Further, the analysis of our subsample replicated our findings for the model tested with all respondents. However, COVID-19 cases were not related to COVID-19 exhaustion ( $\gamma = -.01$ ,  $p > .05$ ); thus, Hypothesis 7b was not supported.

## Discussion

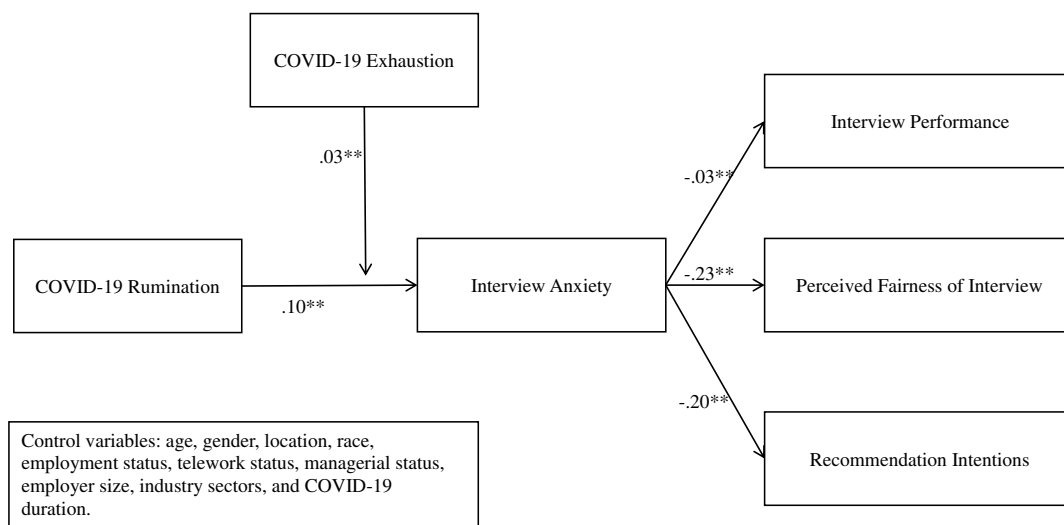
We advance and test a model of interview anxiety in a high-stress, high-stakes context during COVID-19. Our study is the first to examine the applicant experience of virtual interviews in a field setting and is one of the first to illustrate the relationship between anxiety and interview performance in an actual hiring situation. Consistent with predictions, COVID-19 duration and COVID-19 deaths were directly related to applicants' COVID-19 exhaustion. Higher levels of COVID-19 exhaustion, in turn, exacerbated the relationship between COVID-19 rumination and interview anxiety. Subsequently, interview anxiety was associated with less favorable applicant perceptions and lower interview performance.

## Theoretical and Practical Implications

We draw from EST (Morgeson et al., 2015) to advance and test a conceptual model of applicant reactions to AVIs that is embedded in the COVID-19 context. Specifically, our model extends literatures on workplace anxiety and applicant reactions by answering calls for research examining broad, system-level conditions (Morgeson et al., 2015). Although past research has focused on understanding outcomes of test and interview anxiety (e.g., Schneider et al., 2019), less is known about context/event-specific experiences that predispose applicants to feel anxious during the job interview. Our work indicates that context plays a critical role and demonstrates that the



**Figure 2**  
Unstandardized Path Analysis Results From the Entire Sample ( $n = 8,343$ )



*Note.*  $N = 8,343$ . Unstandardized path model coefficients are reported. For brevity, all direct effects as well as the effects of control variables are not reported in this figure but are reported in Table 2.

\*  $p < .05$ . \*\*  $p < .01$ , two-tailed.

experience of interview anxiety involves a complex interplay between environment-based factors (COVID-19 duration and deaths) and personal experience with the context (COVID-19 rumination and exhaustion). Our finding that event duration matters is particularly important given the continued global uncertainty with respect to when this pandemic will end (World Health Organization [WHO], 2021), as well as recent suggestions that pandemics may be the new normal for our future (Phillips, 2021). The effects with respect to COVID-19 deaths are also notable, as death counts have varied widely across countries/regions around the globe and have been found to be influenced by a variety of factors, including timing of lockdowns, vaccine rollouts, and regional wealth (Wouters et al., 2021). Thus, applicants living in countries and regions that have been hardest hit in terms of death counts have a double-whammy, as they are also those most likely to experience COVID-19 exhaustion. In turn, this may impact job prospects via its effect on interview anxiety. Our findings also help advance EST because existing empirical work on EST has mainly focused on event strength (Lin et al., 2021; Liu et al., 2021). By empirically demonstrating the importance of event duration, we expand the research on event time and advance the testing of EST.

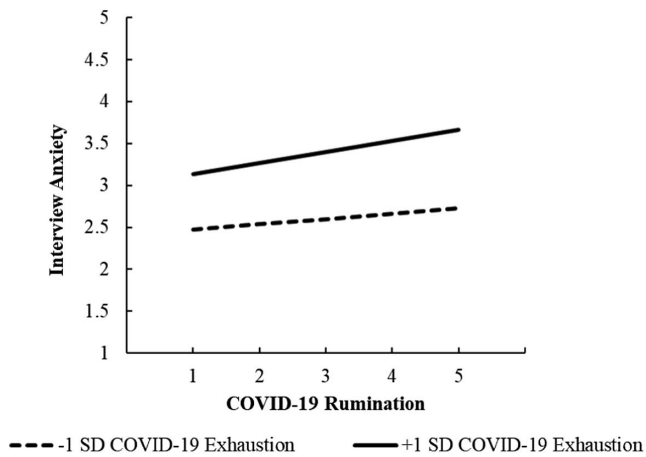
It is also notable that past work in the field of applicant reactions has focused heavily on perceptions of justice, drawing from Gilliland's (1993, 1994) theoretical work highlighting the role of applicants' fairness perceptions on subsequent behaviors, attitudes, and intentions. Our work moves beyond this framework and enhances our understanding of applicant anxiety as it applies to interviews in general and virtual interviews specifically. We found that the levels of interview anxiety related to outcomes that applicants and organizations value highly—interview performance (a behavior), fairness perceptions (an attitude), and recommendation intentions (an intention). This suggests that in addition to fairness perceptions, anxiety is an important consideration with respect to

research on job applicants. Further, our focus on a high-stakes context (interviews for actual employment) rendered the magnitude of interview anxiety higher than in past work (which has focused primarily on simulated interviews and has not been conducted in the midst of a crisis).<sup>10</sup> Taken together, these findings highlight that applicant anxiety is something that organizations should pay attention to and aim to reduce, particularly during times of societal upheaval when anxiety levels may be high.

There are practical implications of our work for both job applicants and organizations. From the applicant's perspective, the COVID-19 pandemic has created a paradox because it is linked to increases in both job search behavior (McFarland et al., 2020) and COVID-19 exhaustion (as found in our study). As a result, applicants may suffer from a double bind of needing to perform well in job interviews at a time when it is the most challenging for them to do so. This is compounded by the fact that many applicants are not yet familiar with AVI formats, which can increase the uncertainty with respect to the interview process. However, virtual interviews

<sup>10</sup> We anticipate that interview anxiety levels will be higher given that we are examining real applicants applying for actual positions in the midst of a pandemic (c.f., Chapman et al., 2005; Truxillo et al., 2009). In support of this proposition, the levels of anxiety we obtained ( $M = 2.89$ ,  $SD = 1.14$ ) are significantly higher than Melchers et al. (2021), who examined 32 students undergoing a mock virtual interview prior to the pandemic and found average anxiety levels of 2.22 ( $SD = .52$ ;  $t = -2.94$ ,  $df = 8,523$ ,  $p < .01$ ). There is also limited data on mean levels of applicant anxiety in actual face-to-face interview contexts prior to the pandemic. Specifically, McCarthy and Goffin (2004) obtained data on levels of interview anxiety among students applying for jobs and found average scores of 2.65 ( $SD = .79$ ;  $N = 182$ ) on a 5-point scale. These levels are significantly lower than what was found in the present study ( $M = 2.89$ ,  $SD = 1.14$ ;  $N = 8,343$ ;  $t = -2.94$ ,  $df = 8,523$ ,  $p < .01$ ). Stumpf et al. (1987) also obtained data on levels of anxiety among student applicants and found average scores of 1.97 ( $SD = .50$ ,  $N = 78$ ), which were also significantly lower than those obtained in the present study ( $t = -7.12$ ,  $df = 8,419$ ,  $p < .001$ ).

**Figure 3**  
*The Moderating Effect of COVID-19 Exhaustion on the Relationship Between COVID-19 Rumination and Interview Anxiety*



are becoming more and more prevalent, as the speed and consistency with which such applied AI can help hire quickly is desirable to organizations (Campion et al., 2016). Thus, applicants would be well advised to practice techniques to minimize rumination, such as meditation (Jain et al., 2007), as well as avoiding activities that may lead to exhaustion, such as “doomscrolling” (Yoon et al., 2021).

We also note that the relationship between interview anxiety and performance observed in the present study was similar to past estimates that have focused on face-to-face interviews with actual applicants (Powell et al., 2018). This has implications for AVIs because as they become less novel they may become less anxiety provoking. Lower levels of anxiety, in turn, are likely to lead to improvements in AVI performance. Future research is needed to examine this proposition, as well as to understand key features related to interview anxiety and different types of interviews.

**Table 3**  
*Moderated Mediation Effects*

Hypothesized effects	Estimate	95% confidence interval
Interview performance as the dependent variable (Hypothesis 4)		
Moderated mediation effect <sup>a</sup>	-.001	[-.002, -.0002]
Conditional indirect effect of COVID-19 rumination on interview performance		
At higher COVID-19 exhaustion (+1 SD)	-.004	[-.007, -.001]
At lower COVID-19 exhaustion (-1 SD)	-.002	[-.005, -.0002]
Difference between the two conditional indirect effects	-.002	[-.004, -.0004]
Perceived fairness as the dependent variable (Hypothesis 5a)		
Moderated mediation effect <sup>a</sup>	-.007	[-.012, -.002]
Conditional indirect effect of COVID-19 rumination on perceived fairness		
At higher COVID-19 exhaustion (+1 SD)	-.031	[-.038, -.025]
At lower COVID-19 exhaustion (-1 SD)	-.015	[-.025, -.004]
Difference between the two conditional indirect effects	-.016	[-.027, -.005]
Recommendation intentions as the dependent variable (Hypothesis 5b)		
Moderated mediation effect <sup>a</sup>	-.006	[-.011, -.002]
Conditional indirect effect of COVID-19 rumination on recommendation intentions		
At higher COVID-19 exhaustion (+1 SD)	-.026	[-.034, -.019]
At lower COVID-19 exhaustion (-1 SD)	-.013	[-.022, -.004]
Difference between the two conditional indirect effects	-.013	[-.024, -.004]

*Note.* Confidence intervals were obtained using the Monte Carlo simulation procedure with 20,000 bootstrap repetitions. An indirect effect is significant when the 95% confidence interval does not contain zero.

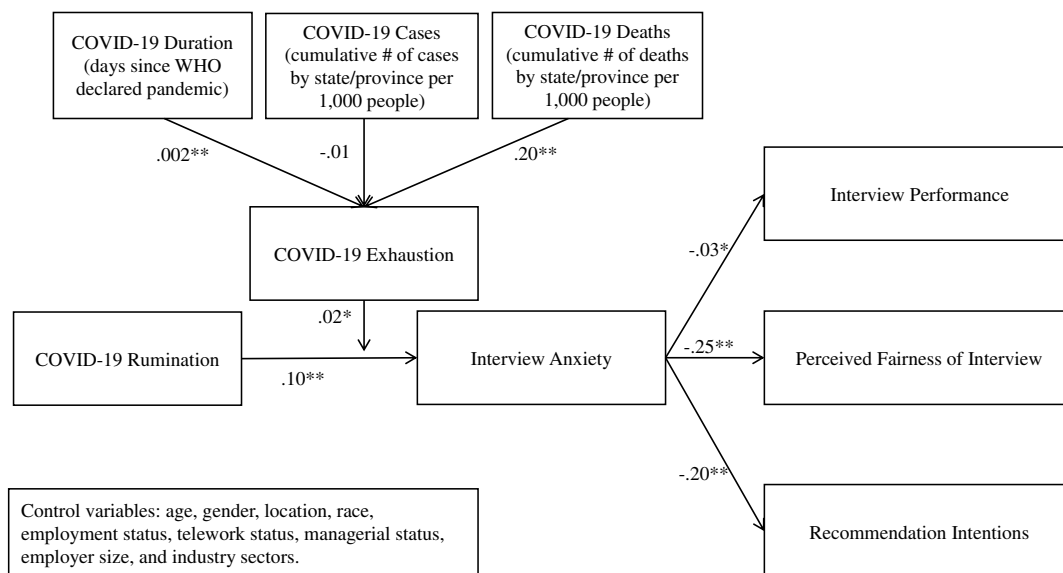
<sup>a</sup> The moderated mediation effect was computed by multiplying the interactive effect of COVID-19 rumination and COVID-19 exhaustion on interview anxiety with the effect of interview anxiety on the corresponding dependent variable.

Finally, our work has implications for future societal shocks. For example, natural disasters, political unrest, economic downturns, and/or future pandemics could lead to situations where those with the greatest need for employment might be the most likely to ruminate and experience exhaustion and anxiety which, in turn, affects their ability to perform when it comes to securing employment. Gaining an understanding of these processes during the current crisis is important. Based on our study, lowering applicants' anxiety and strengthening their focus during the interview seem important for helping applicants perform well and for helping organizations meet their staffing needs, avoid missing good hires, and safeguard their reputations.

### Potential Limitations

Regarding our research methods, a number of design aspects are potential limitations. Our study was multisource (job applicant surveys; AI-rated interview scores; pandemic data in different geographic areas) and examined moderation, which is less susceptible to common method concerns. However, due to the cross-sectional design used to test many relationships, the causal ordering of our model is not the only one possible. For example, anxiety may be driving COVID rumination or exhaustion rather than the other way around. However, while the causal ordering of our moderated relationships cannot rule out alternative ordering, our post hoc analyses did not support models in which interview anxiety impacted outcomes through rumination or exhaustion. Future studies using longitudinal designs would help extend our cross-sectional research and allow for an examination of applicant anxiety over time. Of particular value would be research that considers how anxiety unfolds throughout the recruitment process, such as in anticipation of the interview, during the interview, and after the interview but before receiving a decision. Further, although our sample size was large, our response rate was modest, and our results should thus be interpreted with appropriate caution. Moreover, although our measure of recommendation intentions was consistent

**Figure 4**  
Unstandardized Path Analysis Results From the Subsample ( $n = 6,136$ )



*Note.*  $N = 6,136$  (participants from U.S. and Canada only). Unstandardized path model coefficients are reported. For brevity, all direct effects as well as the effects of control variables are modeled but are not reported in this figure. Duration, cases, and deaths were gathered based on the date of the interview. Complete results are available upon request to the first author.

\*  $p < .05$ . \*\*  $p < .01$ , two tailed.

with its intended organizational use (Reichheld, 2003), it was a single-item measure. This concern may be mitigated given that interview anxiety was also significantly related to our multiitem measure of fairness. Nevertheless, the findings regarding recommendation intentions should be interpreted with some caution. Finally, we note that our findings may have been affected by applicant mood, and future results would benefit from integrating NA and other relevant personality traits into models of interview anxiety.

### Future Research Directions

Our results highlight a number of valuable directions for future research. To begin, it would be advantageous for future work to take a more nuanced approach to the study of rumination by considering the precise source of intrusive thoughts. While our focus was on general levels of rumination with respect to the current pandemic, more nuanced measures could consider whether rumination is focused on concerns related to health, family, job security, and/or childcare. For example, specific types of rumination may be more or less related to the cognitive experience of interview anxiety. Moving beyond the current pandemic, it would also be valuable for future work to consider the core features of other events that may play a role in the experience of AVI anxiety, such as cyber terrorism, economic recessions, and/or health issues. Finally, future research may examine whether the moderation effect of emotional exhaustion on relation between rumination and anxiety can generalize to periods of noncrisis, such as for employees faced with the challenge of new job responsibilities, new leadership, and/or new team members.

Our study also indicates that levels of interview anxiety have significant implications for outcomes that applicants and organizations value highly—interview performance, interview fairness,

and recommendation intentions—and as such underscore the need for future research on techniques that alleviate applicant anxiety. We recommend brief, “wise interventions” (Walton, 2014), such as short explanations that can affect test-taker reactions (McCarthy, Bauer, Truxillo, Campion, et al., 2017), for their practicality and likelihood of organizational adoption. For example, live interviewers could be trained to reassure applicants, and virtual interviews could include explanations that they are being used to protect applicants and/or choice over questions could be enabled (Salend, 2011).

### Conclusion

The COVID-19 pandemic has had a significant impact on global levels of employment. As the first study to examine how virtual interview anxiety relates to interview performance, fairness perceptions, and recommendation intentions in an actual hiring setting, we extend the existing research on applicant reactions, rumination, and anxiety in a high-stress, high-stakes context, where interview performance and employment are critical for job applicants. Our study provides insights into the applicant experience and its outcomes during a long-lasting and extremely severe event.

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## Appendix A

### Measurement Details of Control Variables

Job applicants' age (in years), gender (1 = female; 0 = male), and race (White, Black, Hispanic, and Asian) were predicted by a proprietary demographic prediction algorithm, which was developed by the recruiting-technology company. The company used a publicly available database of over 500,000 face images (<https://data.vision.ee.ethz.ch/cvl/rrothe/fimdb-wiki/>) to develop the algorithm predicting age and gender and utilized self-reported data to develop the algorithm predicting race. According to the recruiting technology company, the classification accuracy of this demographic prediction algorithm was 94%, 99%, and 87% for predicting age, gender, and race, respectively. In our analysis, we created three dummy variables to represent Black, Hispanic, and Asian job applicants, with the majority racial group (i.e., White) being the reference group. The recruiting-technology company obtained the job applicants' consent before using a thumbnail image of their

virtual job interview video and retrieving their age, gender, and race information solely for research purposes. In terms of interview questions, applicants were presented with an average of 5.80 questions ( $SD = 2.89$ ). While there were a wide variety of question types, the majority (80%–90%) were past behavior situational questions, and some (from 10% to 20%) were situational interview questions.

We also controlled for the location where participants took the virtual job interview (these data were provided by the recruiting-technology company after acquiring employers' and applicants' agreement). Specifically, our study contained participants in a total of 93 countries, among whom the vast majority (74%) took the virtual job interview in United States or Canada. According to the geographic classification, the location of our participants was broadly classified into three categories: AMER (North, Central,

and South America; 78%), EMEA (Europe, the Middle East, and Africa; 12%), and APAC (Asia Pacific and Japan; 10%). In our analysis, we controlled for location of virtual job interview by creating two dummy variables to represent EMEA and APAC, with AMER (the majority) being the reference group. The overall pattern of findings does not change if we consider only participants in the AMER area or only participants from the United States or Canada.

We also asked the participants to indicate whether they were employed or not at the time of interview, and controlled for the effect of employment status (1 = *employed*; 0 = *not employed*). In addition, we asked participants to indicate whether they were working from home at the time of interview and controlled for telework status (1 = *working from home*; 0 = *not working from home*). We also asked participants whether they worked in a managerial position in their current job at the time of the interview (1 = *yes*, 0 = *no*), and this variable was controlled for in our analysis as well. Finally, we

controlled for COVID-19 duration, which is the number of days between March 11, 2020, when the COVID-19 outbreak was declared as a pandemic by the WHO and the applicant's interview date.

In terms of the prospective employers' characteristics, we controlled for the employer size (i.e., the number of employees working in the organization). A logarithm transformation was used to rescale employer size due to its non-normal distribution. We also controlled for the industry sector that the employer belonged to. Specifically, employers in our dataset were in six different industry sectors, including sales (29%), service (22%), finance (12%), manufacturing and construction (10%), public administration (10%), or others. Thus, five dummy variables were created to represent the six industry sectors in our data analysis. Data on interview date, employer size, and employer industry sectors were obtained from the recruiting-technology company after acquiring employers' agreement.

## Appendix B

### Measures of Focal Variables

Variable names	Items
COVID-19 rumination <sup>a</sup>	Please indicate the extent to which you agree with the following items. ( <i>1 = strongly disagree; 5 = strongly agree</i> ) During the virtual job interview, I thought about something related to COVID-19. During the virtual job interview, my mind was focusing on COVID-19-related issues. During the virtual job interview, I thought about members of my family and/or friends with respect to COVID-19.
COVID-19 exhaustion <sup>b</sup>	Please indicate the extent to which you agree with the following items. ( <i>1 = strongly disagree; 5 = strongly agree</i> ) As a result of COVID-19, I feel emotionally drained. As a result of COVID-19, I feel used up. As a result of COVID-19, I feel burned out. As a result of COVID-19, I feel fatigued/tired.
Interview anxiety <sup>c</sup>	Please indicate the extent to which you agree with the following items. ( <i>1 = strongly disagree; 5 = strongly agree</i> ) During the virtual job interview, I was nervous. During the virtual job interview, I experienced anxiety. During the virtual job interview, I felt worried about my performance. During the virtual job interview, I thought about how poorly I was doing. During the virtual job interview, I found myself thinking of the consequences of failing. During the virtual job interview, I was overwhelmed by thoughts of performing poorly.
Perceived fairness <sup>d</sup>	Please indicate the extent to which you agree with the following items. ( <i>1 = strongly disagree; 5 = strongly agree</i> ) I believe that the virtual job interview was fair. I felt good about the way the virtual job interview was conducted and administered.
Recommendation intentions <sup>e</sup>	Based on the virtual job interview experience you just had, how likely are you to recommend <<Employer's Name>> to a friend or colleague? (0 = <i>not at all likely</i> , 10 = <i>extremely likely</i> )

<sup>a</sup> This measure was adapted from McCarthy et al. (2009) by tailoring the items to focus on COVID-19. <sup>b</sup> This measure was adapted from Wharton (1993) by adding the stem "As a result of COVID-19" to the beginning of each item. <sup>c</sup> This measure was adapted from McCarthy and Goffin (2004) by tailoring the items to focus on the virtual interview. <sup>d</sup> This measure was adapted from Bauer et al. (2001) by tailoring the items to focus on the virtual interview. <sup>e</sup> This measure was adapted from Reichheld (2003) by tailoring the item to focus on the virtual interview.