

**A matter of time:
Stakeholders' shifting responses to leaders as a crisis unfolds**

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Abstract

Evidence to date suggests that the surest way for leaders to secure stakeholder approval during crises is to use positive language. This insight, however, is based on studies of leaders' communication at a single point in time, typically the immediate aftermath (days or weeks) of a traumatic event, such as a terrorist attack or natural disaster. Yet many crises, including economic recessions, wars, and pandemics, are prolonged (last months or years). We theorize time elapsed in a crisis as a critical moderator of stakeholders' responses to leader communication. Using an archival study of Twitter responses to leader communications during the COVID-19 pandemic (N=148,332), we show that over the pandemic's first eight months, stakeholders respond increasingly more negatively to leaders' positive language and more positively to leaders' negative language. In an online experimental simulation (N=429), we show that this shift can be explained by individuals' deteriorating emotional states (rising pessimism, anxiety, and exhaustion) as crises persist. Our findings underscore the importance of studying crises as dynamic events that unfold over time and suggest that leaders should monitor and attune to their stakeholders' emotional states, adjusting their communication accordingly as an adverse event wears on.

Keywords: Crisis Communication, Time, Leadership, Language, Emotion, Stakeholders, COVID-19 Pandemic, Tweets

Crises create some of leaders' hardest challenges (Bundy, Pfarrer, Short, & Coombs, 2017; Van Der Vegt, Essens, Wahlström, & George, 2015; Williams, Gruber, Sutcliffe, Shepherd, & Zhao, 2017). To navigate these "highly salient, unexpected, and potentially disruptive" (Bundy et al., 2017: 1662) events effectively, communication is critical (Lee, Lampel, & Shapira, 2020; Riggio & Newstead, 2023). When leaders manage crises well, stakeholders follow their guidance more willingly (Stam, van Knippenberg, Wisse, & Nederveen Pieterse, 2018) and approve of them more wholeheartedly (Bastardo, Jacquart, & Antonakis, 2022; Bligh, Kohles, & Meindl, 2004a; Davis & Gardner, 2012; Madera & Smith, 2009). Effective communication during crises is also associated with positive outcomes for the organizations and nations they lead, including better stock market performance (Howe, Giurge, Wagner, & Menges, 2024), more effective policy implementation (Jensen et al., 2023; Mousavi & Gu, 2024) and fewer casualties during public health emergencies (Medeiros, Crayne, Griffith, Hardy, & Damadzic, 2022; Sergeant & Stajkovic, 2020).

Extant research on leader communication during crises focuses primarily on the days or weeks after their onset (Bastardo et al., 2022; Bligh et al., 2004a; Bligh, Kohles, & Meindl, 2004b; Davis & Gardner, 2012; Pennebaker & Lay, 2002). The dominant conclusion of this work is that leaders who use positive, encouraging and optimistic language elicit the best outcomes (Riggio & Newstead, 2023). However, some crises persist for extended periods of time, and others remain unresolvable. The escalating climate emergency, grinding military conflicts, and chronic economic recessions highlight the need to understand how leaders best navigate crises beyond their immediate aftermath (Bridoux et al., 2024). Yet we know little about how time affects leaders' optimal communication strategies as a crisis' early days give way to months and years (Roulet & Bothello, 2023; Skade, Lehrer, Hamdali, & Koch, 2024).

We argue that time is a critical factor in leader communication effectiveness during crises, because the length of time stakeholders have endured an ongoing crisis affects their emotional states, which in turn changes what they seek in their leaders' communications. When a crisis becomes prolonged, stakeholders' mettle and resilience are tested, and their frustration, exhaustion, and distress rise (Gifford et al., 2022; Marciano, Kimhi, Eshel, & Adini, 2024; Terry, Parsons-Smith, & Terry, 2020). As their emotional states degrade, leaders' use of positive language (vs. negative) language increasingly mismatches what they feel.

Specifically, as a crisis persists, we expect that stakeholders react increasingly negatively to leaders' positivity, as it is incongruent with their emotional experience (Benitez, Howard, & Cheavens, 2020; Schreiber & Veilleux, 2022). Instead, time will increase stakeholders' favorable responses to leaders' negative language, as it is more consistent with their lived experience during crises' later stages.

A large-scale archival study as well as an experimental simulation provide empirical support for our arguments. Using 148,332 Twitter responses to 256 English-speaking political leaders' communications about the COVID-19 pandemic during its first eight months (March-October 2020), Study 1 provides initial evidence that time moderates how stakeholders respond to the emotional valence of those communications. Specifically, we find that as the pandemic wore on, stakeholders responded less positively/more negatively to leaders' positive language, and less negatively/more positively to leaders' negative language. To explore the mechanisms and provide causal evidence for these findings, we conducted an online experiment in which participants, in the role of employees, read and responded to a series of their company CEO's communications over the course of an economic recession. Participants (N=429) reported significantly higher levels of pessimism, anxiety, and exhaustion in later (versus initial) stages of the crisis, and these degraded emotional states explained their more negative responses to the CEO's positive (vs. negative) language.

We aim to make several contributions which ultimately extend our understanding of how leaders can navigate crises more skillfully. Our foremost contribution is to the literature on crisis leadership (Bundy & Pfarrer, 2015; Bundy et al., 2017; Coombs & Holladay, 2002). To date, research on this topic has largely ignored temporal dynamics, leading to calls to investigate "how organizations and stakeholders respond to crises over time" (Bundy et al., 2017: 1683). We show that time alters how stakeholders respond to leaders during crises. As a crisis becomes prolonged, leaders' use of positive language backfires and their negative language is received more favorably. Our second contribution is to theory about leadership and emotions (Van Knippenberg & Van Kleef, 2016). This body of work has focused on ideas like contagion, transmission, and influence, operating unidirectionally from leaders to their stakeholders (Johnson, 2009; Sy, Côté, & Saavedra, 2005). We focus instead on the importance of leaders' sensitivity to stakeholders' emotional states,

and document that their communication effectiveness during crises depends on how well they attune to and validate those shifting emotional states when they communicate.

Finally, we contribute more broadly to research on leader communication (Liu, Chambers, & Moore, 2023), and specifically to the literature on delivering difficult news (Bies, 2013; Molinsky & Margolis, 2005). We demonstrate that effective leader communication during a prolonged crisis (which almost necessarily contains some bad news) is time-sensitive: recipients' needs for crisis-related candor vary with their emotional states as time passes. In contrast to previous findings which suggest that delivering bad news elicits negative reactions (Bies, 2013), our study shows that negatively-valenced language—a necessary component of bad news—can increase perceptions of leader effectiveness (Kitz, Barclay, & Breitsohl, 2023). This represents a positive counter-reaction to negative language not identified previously.

LEADER COMMUNICATION IN CRISES

Crises elicit high levels of stress for those living through them. The profound uncertainty they create motivates individuals to search for credible information, meaning, and direction. In crises, leader communication plays a central role in reducing ambiguity, shaping interpretations of unfolding events, coordinating collective responses, and ultimately resolving them effectively (James, Wooten, & Dushek, 2011; Montiel, Uyheng, & Dela Paz, 2021; Riggio & Newstead, 2023; Stam et al., 2018). Crises also represent a particular communicative challenge. In general, leaders' positive language inspires stakeholders' confidence and support (Bono & Ilies, 2006; Hatfield, Cacioppo, & Rapson, 1993). As a result, leaders tend to avoid negatively-valenced language, even when a situation demands it. Not only is negative language emotionally draining (Molinsky & Margolis, 2005), it triggers blame towards those who use it (Bies, 2013), and elicits negative emotional responses among those who hear it (Johnson, 2009; Sy et al., 2005).

Inevitably, however, crises require leaders to communicate at least some inherently negative information (Riggio & Newstead, 2023). Worse, they have to communicate this information to stakeholders whose already-activated negative emotions risk shaping their evaluations of and willingness to follow them (Damen, van Knippenberg, & van Knippenberg, 2008; Naidoo & Lord, 2008). As a result, a core concern in crisis research revolves around how leaders can best convey difficult information while mitigating

stakeholders' negative responses to it (Collins et al., 2023; Lee et al., 2020; Wu, Shao, Newman, & Schwarz, 2021). In other words, they need to answer this question: "Should [I] report the unvarnished truth, even when things are bleak, or... strike an upbeat note, reassuring everybody that all is going well?" (Lee et al., 2020: 1047). Leaders who navigate these conflicting goals well are more trusted (Norman, Avolio, & Luthans, 2010), earn greater stakeholder approval (Bligh et al., 2004a), and their guidance is followed more readily (Stam et al., 2018). Those who navigate them badly compromise the effective dissemination of crisis-related information and reduce buy-in for the solutions they are proposing to address the situation.

To date, what we know about navigating these tensions comes from research focused on the immediate aftermath (typically days or weeks) following highly disruptive events, such as a terrorist attack (Bastardo et al., 2022), natural disaster (Davis & Gardner, 2012), or public health emergency (Jensen et al., 2023; Sergent & Stajkovic, 2020). Nevertheless, many crises endure for long periods without clear beginnings and/or endings and include multiple waves of disruptive events (Roulet & Bothello, 2023; Skade et al., 2024). International military conflicts like the First and Second World Wars or the ongoing Russia-Ukraine War, economic recessions such as the Great Depression or the 2008 Financial Crisis, or global pandemics like the Black Death or COVID-19 all persisted for several years. Yet little research has focused on how leaders maintain effective communication and sustain stakeholder support as an enduring crisis persists.

Richer theorizing about how time shapes leadership effectiveness during crises is needed for several reasons. First, effective leadership in prolonged crises requires "both immediate and sustained attention from stakeholders" (Skade et al., 2024: 1088), yet stakeholder responses to leaders are unlikely to remain static as a crisis persists. What stakeholders are looking for from leaders six months or a year into a grinding crisis will be different from when the crisis first emerged. In addition, the relational dynamics between leaders and stakeholders likely change as a crisis unfolds. Yet research has rarely examined the effectiveness of leader communication strategies at different points in time (Bundy et al., 2017). Exploring the duration and stability of various leadership strategies' effectiveness (Shamir, 2011) facilitates a more nuanced understanding of how leaders should manage through prolonged hardship.

How Time Affects Responses to Positive Leader Language During Crises

Positive language is often associated with effective leadership (Cameron, 2012). This has been particularly true in studies of crisis leadership (Riggio & Newstead, 2023). At the onset of a crisis, stakeholders often seek optimism and desire to hear that the disruption will end quickly, with a swift return to “normal” (Boyle et al., 2004). In the immediate aftermath of an emergency, positive language brings stakeholders hope and boosts their morale (Bligh et al., 2004a). This is one reason why crises often precede charismatic leaders’ emergence. When a major disruption occurs, stakeholders welcome charismatic leaders’ positively-valenced language and respond well to confidence that the adversity will be overcome (Bastardo et al., 2022; Bligh et al., 2004a; Jensen et al., 2023). For example, after each of three terrorist attacks France suffered in 2015 and 2016, former French president François Hollande’s charismatic language upped his approval ratings (Bastardo et al., 2022). Similarly, U.S. governors’ charismatic language was associated with citizens’ cooperative stay-at-home behaviors during the first wave of the COVID-19 pandemic (Jensen et al., 2023). In the aftermath of highly disruptive events, the bulk of the evidence points to leaders’ positive language eliciting positive stakeholder responses.

There are several reasons, however, why the passage of time may mute how positively stakeholders respond to leaders’ positive language. Time passing in a crisis means that stakeholders have endured hardship for longer and withstood repeated bouts of negative information. Several months into an economic recession, for example, stakeholders may have seen the value of their investments decrease, witnessed friends and family lose their jobs, and read about distressing implications for the wider society, such as rising homelessness or hunger. In an ongoing war, they may have had first-hand or vicarious experience with casualties, displacement, destruction of property or infrastructure, as well as braved failed attempts to reach a ceasefire. As a crisis persists without clear resolution—and the possibility that the situation may still worsen—leaders’ positive language increasingly diverges from stakeholders’ lived experiences. This continued exposure to negative information will lead them to perceive positive language as increasingly mismatched to the situation (Shields, 2005). When individuals communicate in ways inappropriate for their context, they are penalized (Gardner, Fischer, & Hunt, 2009; Jordan & Lindebaum, 2015; Koning & Van Kleef, 2015; Szczurek, Monin,

& Gross, 2012). Ultimately, when concerns that a crisis is persisting with no apparent resolution in sight, stakeholders may interpret leaders' positive language as sugarcoating bad news or hiding uncomfortable truths (Fang, Kim, & Milliken, 2014). Therefore, we hypothesize that the relationship between leaders' positive language and stakeholders' evaluations of those leaders is moderated by time, such that:

Hypothesis 1. *As a crisis persists, stakeholders respond less positively/more negatively to leaders' positive language.*

How Time Affects Responses to Negative Leader Language in Crises

Just as leaders' positive language is typically associated with positive stakeholder responses, leaders' negative language is typically associated with negative stakeholder responses (Gaddis, Connelly, & Mumford, 2004; Lewis, 2000). Unsurprisingly, leaders prefer conveying good to bad news not only because bad news triggers more intense negative affective responses (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001), but also because it can invite blame toward the leader (Bies, 2013). Thus, leaders tend to keep their language positive, even when communicating about negative events. The immediate, high arousal negative emotions crises trigger is one reason stakeholders find comfort and reassurance in leaders' positive messages (Bligh et al., 2004a). Moreover, at the onset of a crisis, uncertainty dominates (Wu et al., 2021), which makes positive messages believable as well as attractive. These findings suggest that leaders' negative language will be especially distressing early in a crisis and elicit negative responses when employed too soon.

We also argue that negative responses to leaders' negative language will subside over time. At the onset of a crisis, individuals are driven to assume the situation will be temporary (Omer & Alon, 1994). However, as time passes, beliefs that adversity will continue—or even worsen—intensify (Janoff-Bulman, 1992; Schuler & Boals, 2016). We argue that this more negative orientation will shift stakeholders' responses to leaders' negative language. When stakeholders are hopeful that a bad situation will return to normal quickly, leaders' negativity shatters their hope, but when they worry that no end to the crisis is in sight, leaders' negative language is instead congruent with their lived experience.

In other words, negative language becomes more appropriate as time passes in a crisis. Negativity elicits more positive responses when is deemed situationally appropriate (Jordan & Lindebaum, 2015; Van Kleef & Côté, 2007). For example, politicians are evaluated as more credible and trustworthy when they have

negative (vs. positive) emotional reactions to news about military intervention or government shutdowns (Bucy, 2000). Leaders' use of negative language also supports stakeholders' efforts to reevaluate and assign new meanings to their circumstances (Crosina, Frey, Corbett, & Greenberg, 2024; Visser, Van Knippenberg, Van Kleef, & Wisse, 2013), ultimately enhancing their adaptation to and acceptance of the upheavals the crises created (Wilson & Gilbert, 2008). Thus:

Hypothesis 2. *As a crisis persists, stakeholders respond less negatively/ more positively to leaders' negative language.*

The Mediating Role of Stakeholders' Emotional States

Hardship compromises one's mental state (Aiello et al., 2021; Slaughter, Gabriel, Ganster, Vaziri, & MacGowan, 2021; Terry et al., 2020). During the first several months of the COVID-19 pandemic, individuals reported decreasing mental health (Giuntella, Hyde, Saccardo, & Sadoff, 2021), including increasing levels of stress, depression, and fatigue (Terry et al., 2020). As hardship persists, individuals tend to dampen beliefs that things might get better, emphasize their negative aspects and forecast bleaker futures. Repeated negative events drain energy and deplete motivation (Janoff-Bulman, 1992; Schuler & Boals, 2016), leading to exhaustion (Shulman, Bullock, & Riggs, 2021) and burnout (Torrès et al., 2021). Stakeholders' emotional states will thus degrade as a crisis persists. We focus specifically on stakeholders' pessimism, anxiety, and emotional exhaustion, as these states are commonly associated with living through chronic or enduring difficulties (Jensen et al., 2025; Schowalter & Volmer, 2024).

Hypothesis 3. *Stakeholders' emotional states worsen over the course of prolonged crises, becoming (a) more pessimistic, (b) more anxious, and (c) more exhausted.*

Finally, we argue that these deteriorating emotional states explain why stakeholders' responses to leaders' positive language become increasingly negative, while their responses to leaders' negative language become increasingly positive. We base this argument on several bodies of research that, in different ways, illustrate how understanding and communicating congruence with others' emotional states leads to positive relational outcomes. This idea originates in the literature on interpersonal relationships, which stresses the importance of attunement and validation. Attunement refers to the dynamic process in which partners' emotional states become coordinated through awareness and empathetic response (Butler & Randall, 2012).

Research in developmental psychology shows that parental attunement to infants' emotions provides the "scaffolding" infants need to begin to regulate their own emotional states (Butler & Randall, 2012: 203). Validation refers to communicative actions that support feeling "heard and seen" rather than "discounted or trivialized" (Linehan, 1997: 356). When interaction partners are validated, they experience less psychological distress (Schreiber & Veilleux, 2022), as well as recover from emotional pain (Benitez et al., 2020) and challenging situations (Zachariae et al., 2003) more easily.

The fundamental ideas behind emotional attunement and validation have been tested and confirmed in organizational contexts. For example, relational attunement is a key driver of effective coaching relationships (de Haan & Nilsson, 2023). Similarly, identifying and responding to individuals' authentic emotional experiences within teams is associated with better creative outcomes (Parke, Seo, Hu, & Jin, 2022). Related work on affective matching (Van Knippenberg & Van Kleef, 2016) finds that leaders are evaluated more favorably by followers when the emotional valence of leaders' messages is congruent with their followers' emotional states (Damen et al., 2008; Newcombe & Ashkanasy, 2002). Leaders are also better able to persuade others when the emotional valence of their communications matches the emotional states of those they are trying to influence (DeSteno, Petty, Rucker, Wegener, & Braverman, 2004).

Though these bodies of work originated in several different traditions, use different terminology and reflect a range of behaviors, they have in common the fundamental idea that individuals respond positively to others who show an awareness of, sensitivity to, belief in, and congruence with their emotional states. As a result, we theorize that over the course of a prolonged crisis, stakeholders will respond more positively to leaders' language that reflects their deteriorating internal states. Accordingly, we predict that stakeholders will respond more positively to leaders' messages that reflect their distress at the time, and more negatively to messages that are incongruent with their suffering. Figure 1 depicts our theoretical model.

Hypothesis 4. *Stakeholders' increasingly negative responses to leaders' positive language and increasingly positive responses to leaders' negative language as a crisis persists can be explained by their deteriorating emotional states in the crisis, specifically their increasing (a) pessimism, (b) anxiety, and (c) exhaustion.*

----- Insert Figure 1 about here-----

OVERVIEW OF STUDIES

We investigate the effect of time on stakeholders' responses to leaders' communication during prolonged crises, in both a real-world setting using stakeholders' Twitter responses to political leaders' communications about the COVID-19 pandemic (Study 1), and an experimental simulation (Study 2). Study 1 examines how stakeholders respond to leaders' negatively- and positively-valenced language in their COVID-related communications over the first eight months of the pandemic (H1-H2). Study 2 uses an experimental design to test H1 and H2 under controlled conditions, and examine stakeholders' emotional states as the proposed mechanism, supporting our causal predictions (H1-H4).

STUDY 1: ARCHIVAL STUDY

Methods

Empirical setting. We examine stakeholders' social media responses to national leaders' formal communications about the global coronavirus pandemic. This setting provides a useful context to document stakeholder responses to leaders' communication for several reasons. In this digital era, leaders' reputations are global and scrutinized 24/7 by individuals worldwide, making social media platforms a key arena where leaders with global visibility receive real-time feedback about their communications (Gruber, Smerek, Thomas-Hunt, & James, 2015; Guntuku et al., 2020). Social media users' posts are increasingly used as proxies of leadership effectiveness, regardless of those stakeholders' geographic locations (Tumasjan, Sprenger, Sandner, & Welpe, 2011). Although individuals who post publicly on social media might differ from those who do not, social media users are considered to be an important stakeholder group with influence over leaders' public image (Jordan, Pennebaker, & Ehrig, 2018).

Sampling procedure. We chose March 2020 to start our data collection because it is when the pandemic became a widely recognized global crisis, and completed it in October 2020, just before the second wave of cases began in earnest. We focused our analysis on the heads of governments of majority English-speaking OECD (Organization for Economic Co-operation and Development) countries in office when the COVID-19 pandemic struck in January 2020: Prime Minister Scott Morrison (Australia), Prime Minister Justin Trudeau (Canada), Prime Minister Leo Varadkar (Ireland), Prime Minister Jacinda Ardern (New

Zealand), Prime Minister Boris Johnson (United Kingdom), and President Donald Trump (United States). From March to October 2020, we collected the transcripts of each leader's COVID-19 public statements, addresses to congress, media briefings and press conferences from their governments' official websites, using the keywords "COVID-19", "coronavirus", or "pandemic". We considered a communication crisis-related if at least one paragraph referenced the coronavirus crisis. In total, we identified 335 leader communications over the data collection period.

We used Twitter's Application Programming Interface (API) to retrieve tweets about the COVID-19 crisis using the keywords "COVID-19" and "coronavirus". Between March and October 2020, we collected tweets on a daily basis using real-time streaming, capturing a consistent volume (approximately 50,000 tweets per day) and ensuring a global geographic distribution of tweets by rotating the observation window. In total, we retrieved over 107 million tweets ($N=107,592,758$). We excluded tweets not in English ($N= 37,077,141$). We identified cases in which a given tweet addressed one of the leaders in the following ways: (1) the focal stakeholder (i.e., the Twitter user) mentioned the leader's name anywhere in the original text of the focal tweet; or (2) another stakeholder mentioned the leader in a tweet, which the focal stakeholder quoted (i.e., retweeted or replied to), or (3) replied to a leader's tweet. We excluded direct retweets of leaders' tweets as they do not feature stakeholder-created content. In total, we identified over 11 million tweets ($N=11,295,637$) about the leaders in the sample. To maximize the likelihood that that the tweets in our sample were responding to leaders' specific communications about the crisis, we retained tweets posted on the calendar day following each leader communication event. For example, if Jacinda Arden made a speech about the pandemic on the evening of April 14, 2020, we retained all tweets referencing Jacinda Arden from 00:00 to 23:59 on April 15, 2020. This process resulted in a sample of 3,481,799 tweets referencing 332 leader communication events. Table 1 provides details on the sample.

This empirical approach offers a rare opportunity to study the effects of leader communication during a prolonged crisis, a context that is challenging to examine empirically because few data sources capture multiple leaders simultaneously responding to the same crisis as it unfolds in real-time, or have offered the opportunity to link leader communication to their stakeholders' responses. Extant research on

crises typically focuses on a single country (Bastardo et al., 2022; Beelitz & Merkl-Davies, 2012), typically the U.S. (Benoit & Henson, 2009; Bligh et al., 2004a, 2004b; Davis & Gardner, 2012; Liu, 2007). This includes the majority of research on the COVID-19 crisis (Jensen et al., 2023; Sergent & Stajkovic, 2020). Few exceptions which examine leaders' handling of the COVID crisis from multiple countries do not link leader actions with stakeholder evaluations (Grebelsky-Lichtman & Katz, 2020; Montiel et al., 2021). Our approach addresses the empirical challenges inherent in studying stakeholders' responses to multiple leaders within the same crisis as diligently as possible, and more comprehensively than prior research has thus far. In the next section, we discuss other potential constraints of our data, particularly the time varying factors that pose challenges in an eight-month longitudinal study (e.g., major events at national and global levels), and how we offset these challenges.

----- Insert Table 1 about here -----

Measures

Dependent variables: Stakeholder response valence. Each stakeholder tweet was analyzed using Linguistic Inquiry and Word Count software (LIWC2015), a dictionary-based computer-aided text analysis program to measure emotional states and psychological processes from language (Tausczik & Pennebaker, 2010), including those found in tweets (Aiello et al., 2021; Brady, Wills, Burkart, Jost, & Van Bavel, 2019; Jordan et al., 2018). Following Jordan and colleagues' (2018) protocol, we excluded tweets with fewer than 10 words (approximately 7% of our sample), as they are too short to be quantified meaningfully. We measured *positive stakeholder response* as the percentage of positive emotion words in each stakeholder tweet (the "positive emotion" category in LIWC2015), and *negative stakeholder response* as the percentage of negative emotion words in each stakeholder tweet (the "negative emotion" category in LIWC2015). Note that a tweet can contain both, either, or none of the positive and negative words in a category. Both stakeholder positive and negative responses are continuous variables ranging from 0 to 1. These measures provide a good way to proxy approval of the leader to which the tweet refers (Decter-Frain & Frimer, 2016; Dworakowski et al., 2023). For example, a positively-valenced tweet about Jacinda Ardern ("*She has shown true leadership in during[sic] this Coronavirus Crises...Jacinda Ardern is the paragon of what a good leader should be about*") clearly signals approval

(8.33% positively-valenced words, e.g., “good”, and 0% negatively-valenced words). Similarly, this negatively-valenced tweet about Justin Trudeau (“*Trudeau's coronavirus lockdown is destroying Canada: let us work!*”) illustrates disapproval (11.11% of negatively-valenced words, e.g., “destroy”, and 0% positively-valenced words).

Leader language valence. We used the same LIWC2015 categories to operationalize *positive leader language* and *negative leader language*, consistent with other studies (Pennebaker & Lay, 2002). Leader communication usually contains both positively-valenced and negatively-valenced words. For example, a passage of Boris Johnson’s speech, “...*you’ll remember, we had hoped to reopen in England... Today, I am afraid we are postponing these changes for at least a fortnight... And of course we continue to hope for the best... I know we are going to succeed and I know we are going to beat this*”, contains 8.16 % positively-valenced words and 2.04% negatively-valenced words. A passage in Justin Trudeau’s speech, “...*we’ve seen record cases of COVID-19 across the country. It’s a cause for concern, and must be taken seriously... Canada is now in the second wave of this pandemic... sadly, that’s the reality. We will continue to do our part to support the people...*” contains 2.27 % positively-valenced words and 4.55% negatively-valenced words.

Time (elapsed in a crisis). Time passed in a crisis is operationalized as *country pandemic month*, where Day 1 represents the day when the total COVID-19 cases within a given country exceeded 100.

Control Variables

Tweet-level controls. We include several controls at the tweet level, to account for the basic elements of a Twitter post that may attract attention and shape stakeholder evaluations (Lee & Xu, 2018), including (1) whether the tweet is a *retweet*, (2) whether the tweet is a *quote* (i.e., retweet and reply to another tweet), (3) whether the tweet is a *reply to another account*, (4) whether the tweet *quoted* the target leader, and (5) whether the tweet is a *reply to the target leader’s* account (i.e., the tweet begins with “@leader’s account name”). To control for the potentially disproportionate influence of highly influential stakeholders, we controlled for (6) *stakeholder tweet frequency*, the count of tweets produced by a focal stakeholder for each target leader. To control for highly dispersed tweets, we controlled for (7) *retweet frequency*, the count of tweets with the same tweet content for the leader (e.g., the same content can be retweeted multiple times by different stakeholders on different days). Finally, we controlled for (8) *leader communication response count*. For each tweet, we compute

the count of tweets responding to the same leader communication event. Higher values indicate that the tweet is responding to an event that attracted broader public engagement.

Country-level events and policy change controls. We included three country-level control variables at the daily level, to account for the policy changes and levels of crisis severity which may have evolved differently over time in each country. These daily measures were accessed from Our World in Data, a project of the Oxford-affiliated UK-based nonprofit Global Change Data Lab, whose COVID-19 data have been used in prior research (Mathieu et al., 2021). We included the following daily measures: (1) *COVID-19 deaths*, a count of newly confirmed COVID-19 deaths per million people, (2) *COVID-19 reproduction rate*, the reproduction number of the COVID-19 disease that indicate the spread of the virus, and (3) *COVID-19 restriction*, the level of restriction (ranging from 0 to 100, where 100 = strictest; for example, a level of 90 indicated that the strictest subregion in the country was under lockdown). We logged all count variables with skewed distributions. The COVID-19 restriction index is calculated using nine metrics including school closures, workplace closures, cancellation of public events, restrictions on public gatherings, closures of public transport, stay-at-home requirements, public information campaigns, restrictions on internal movements, and international travel controls. This means that if any policy changes (e.g., announcing a stay-at-home order or lifting a lockdown), or pandemic related positive news (e.g., offering employment support alongside workplace closure) or negative news (e.g., a surge in deaths or hospitalizations and the subsequent cancellation of public events) were referenced in a leader’s speech, these nation-level covariates would have captured those aspects of communication content. This approach follows other studies on the coronavirus crisis which added policy related changes as covariates in their empirical analysis (Sergent & Stajkovic, 2020).

Global events control. Finally, we added *calendar date* to our models to control for events that may have affected different countries globally. For example, on March 27, 2020, when Boris Johnson tested positive for COVID-19, there was a significant surge of positive tweets from all over the world wishing him a speedy recovery. On April 14, 2020, Jacinda Ardern announced that she would take a 20% pay cut due to the pandemic, eliciting many positive tweets about her and negative tweets about her Oceania counterpart Scott Morrison, whose stakeholders urged him to do the same. This covariate controls for salient global events

unrelated to COVID-19 that elicited strong emotional responses online, such as the murder of George Floyd on May 25, 2020, which sparked widespread protests throughout that summer.

Empirical Strategy

Our empirical strategy required an important decision about how to address the fact that 95% of all stakeholder tweets (N=3,322,350) referred to U.S. President Donald Trump's 76 COVID-related communications. As a result, analyzing the full sample would in effect capture stakeholder responses to President Trump alone, with the other five leaders becoming statistical noise captured in the models' error terms. This issue is especially important because Donald Trump is widely considered a distinctive leadership case (Afanasyev, Fedorova, & Ledyeva, 2021; Dumitrescu & Ross, 2020; Ross & Rivers, 2018), including his leadership choices during the COVID-19 crisis (Kapucu & Moynihan, 2021; Parker & Stern, 2022; Rutledge, 2020). Thus, to generalize to leaders more broadly, we focused our primary analyses on the five other national leaders in our sample (N=256 leader communications responded to in N=159,449 tweets). Nevertheless, we report results including Donald Trump at the end of the results and present them in more detail in the Online Appendix.

Results

Table 2 reports descriptive statistics and bivariate correlations among the study variables. Our main models are pooled ordinary least squares regressions with leader fixed effects and robust standard errors clustered by stakeholders' Twitter IDs. In Table 3, Models 1-3 present the results for positive stakeholder responses, and Models 4-6 present the results for negative stakeholder responses. Interestingly, positively-valenced leader language was associated with larger stakeholder responses in both directions—positive (Model 2) and negative (Model 5). Importantly, these models control for time but do not interact time with leaders' language valence, thus they estimate average associations across time. These models show that stakeholder responses to leaders' communications became more negative overall as the pandemic wore on, demonstrating the face validity of our results. Crisis communication seems to amplify overall emotional engagement, particularly to leaders' positively-valenced language.

----- Insert Tables 2 and 3 about here -----

Models 3 and 5 test Hypothesis 1-2, which predict that, as the crisis persists, stakeholders respond less positively and more negatively to leaders' positive language (H1), as well as less negatively and more positively to leaders' negative language (H2). We find that stakeholders do respond less positively (Model 3, $b = -0.04$, $SE = .01$, $p < .001$) and more negatively (Model 6, $b = 0.08$, $SE = .01$, $p < .001$) to leaders' positive language over time, as well as more positively (Model 3, $b = 0.06$, $SE = .01$, $p < .001$) and less negatively (Model 6, $b = -0.03$, $SE = .01$, $p < .01$) to leaders' negative language over time, providing support for both hypotheses.

Figure 2 plots the average marginal effects of leader language on stakeholder responses in each pandemic month. The two left panels show stakeholders' decreasingly positive and increasingly negative responses to leaders' positive language over the first eight months of the pandemic. The two right panels show increasingly positive and decreasingly negative responses to leaders' negative language over the same period. In the first month of the pandemic, every 1% increase in leaders' positive language was associated with a .4% increase in stakeholders' positive responses and .2% increase in their negative responses. By the ninth month, leaders' positive language had no association with stakeholders' positive responses, but every 1% increase in their positive language was associated with a .8% increase in their stakeholders' negative responses. The reverse was true for leaders' negative language: in month 1, every 1% increase in leaders' negative language was associated with a .4% decrease in stakeholders' positive responses and .5% increase in stakeholders' negative responses. By month 9, leaders' negative language was approaching no effect on the valence of stakeholders' responses, whether positive or negative. In other words, by month 9, positive leader language no longer elicited favorable reactions from stakeholders; instead, it was associated with increasingly negative reactions. Moreover, stakeholders' responses to leaders' negative language became more neutral, indicating growing indifference to leaders' negative language at the same point in the crisis.

----- Insert Figure 2 about here -----

Robustness Checks

We conducted several robustness checks. The first considered the fact that our current models controlled for leader fixed effects without controlling for how time-invariant stakeholder characteristics might

affect the results. Stakeholders who tweeted in early phases of the crisis might be different from those who tweeted later. In other words, we might have first collected tweets from optimistic stakeholders who tended to post more positive tweets and later collected tweets from gloomy stakeholders who tended to post more negative tweets. To address this potential issue, we used Stata's *reghdfe* package to run models including leader and stakeholder fixed effects. This robustness check drops one third (32.5%) of stakeholders in our sample who only contributed a single tweet. Second, we modified our dependent variable, and used stakeholders' net response valence (the difference between stakeholder positive and negative responses) as the dependent variable. Third, we used alternative measures for our control variables (replacing *COVID-19 deaths* with *COVID-19 cases*, count of newly confirmed COVID-19 cases per million people) in our specification. Results were largely consistent across these different specifications and continued to support Hypotheses 1 and 2. However, in the multi-level fixed effects model and the model with alternative control variable, the interaction between leaders' negative language and time on stakeholders' negative responses was no longer statistically significant. We report these results in the Online Appendix.

Models Including President Trump

The twitter responses to President Trump's communications represent over 95% of the original sample. Models that include them show results consistent with Hypothesis 2, but not Hypothesis 1. Over the first eight months of the pandemic, negative leader language was associated with increasingly less negative stakeholder responses. However, contradicting Hypothesis 1, positive leader language was associated with more positive stakeholder responses over time. We report these analyses in the Online Appendix.

To better understand why Trump's positive language did not backfire over time as it did for the other leaders, we looked more closely at Trump's communications and his stakeholders' positive tweets in September and October 2020. Our sampling period coincided with the approach of the U.S. presidential election in November 2020. This artifact of our observation window makes it difficult to cleanly separate crisis-related communication from election-related messaging, but may also help explain this result. As the election day approached, Trump's coronavirus briefings increasingly included partisan and campaign-relevant positive statements. For example, during a press conference announcing a vaccine distribution plan in

September 2020, he applauded his fellow Republicans (“*I’m going to run through just a quick list of accomplishments that we’ve done...we’ve really become the healthcare party — the Republican Party*”). The positivity of the tweets in response to these COVID-related communications may have been a function of enthusiasm for his candidacy rather than positive regard for his handling of the crisis per se. For example, tweets within the sample include “*Trump’s America is doing so great #maga*”, “*Make America Great Again*”, and “*@realdonaldtrump @vp @whitehouse @gop fantastic job with #COVID19 bravo!!! Congratulations.*”. However, disentangling enthusiasm for his candidacy and positive response to his COVID strategy is a fool’s errand, as they may be one and the same. Nevertheless, stakeholders’ responses to Trump’s pandemic-related communications differed from the other five leaders in our sample, including Jacinda Arden, who also faced an election during the same period.

Discussion

Study 1 provided initial support for Hypotheses 1 and 2: time elapsed in a crisis moderates stakeholders’ responses to the valence of leaders’ communication, such that they respond less positively to leaders’ positive language and less negatively to their negative language as a crisis persists. Naturally, the archival nature of our data has several limitations. Although we used stakeholder responses that were chronologically proximal to leaders’ communications, we cannot be sure that the tweets were responding specifically to the pandemic-related communications and not other things. Relatedly, these data provide no way to measure stakeholders’ discrete emotional states over time cleanly, and thus no way to test the mechanisms underlying our observed effects. Last, our measure of stakeholder responses is a proxy rather than a direct measure of leader approval or evaluation of his or her communication effectiveness. Study 2 addresses these limitations.

STUDY 2: EXPERIMENT

In an experimental design, Study 2 aims to provide causal evidence and examine stakeholders’ emotional states as the mechanism behind our moderated effect, using an organizational context and different type of crisis (a simulated economic recession). We sought to replicate our findings from the archival study (H1-H2), assess stakeholders’ changing emotional states through the stages of the crisis simulated in the experiment (H3), and test whether these emotional states mediate our primary moderated effect (H4). Our

design manipulates the valence of the CEO's language while holding its information content constant, facilitating causal claims, and allows clean measures of stakeholders' discrete emotional states and evaluations of their CEO at different points in the crisis. We preregistered our hypotheses and empirical approach at <https://aspredicted.org/6b4j-gyg7.pdf>. The Institutional Review Board (IRB) at the first author's university approved the research protocol. After receiving IRB approval and before running the full study, we ran a pilot study (N=160) to ensure our experimental manipulations were successful.

Participants

We recruited 560 individuals based in the United Kingdom and whose first language is English through Prolific Academic, an online labor market for survey research. The details of the power analysis we performed to determine the sample size for a moderated mediation can be found in the Online Appendix. After dropping 131 participants who failed an attention check, described below, our final sample (N=429) consisted of 214 women (50%), 211 men (49%), and 4 who indicated they were non-binary or preferred not to disclose their gender (1%). The sample spread across age groups, with 17 between 18-24 years (4%), 97 between 25-34 years (22.6%), 118 between 35-44 (27.5%), 103 between 45-54 (24%), 71 between 55-65 years (16.6%), and 23 over 65 years (5.3%). More than three quarters (76%) reported 10 years or more of work experience. We paid participants £1.50, the standard rate of pay for this length of experiment.

Procedure

We asked participants to imagine that they work for a company called Aura Tech under the leadership of CEO Riley Chen and informed them that they would read a series of news articles, as well as Riley Chen's communications to them as employees. We did not specify the CEO's gender, and used a gender-neutral name for them. We randomly assigned participants to one of four conditions in a two by two between-subjects design, manipulating time and leader communication valence. Complete stimuli are presented in the Online Appendix.

Crisis stage manipulation. We manipulated time (initial vs. late stage) by varying the number and dates of news stories participants read about the crisis. In the initial-stage condition, participants read a single news story reporting on an unexpected stock market crash the day after it occurred. To simulate the passage

of time in the late-stage condition, participants read three additional news stories, dated three, six, and twelve months after the first news story, to make clear that the economic crisis was continuing. To enhance realism, we used real calendar dates in the articles and designed the stimuli to resemble mobile news sources. After reading each article, we asked participants to report their emotional responses to the news at that point in the crisis. Participants in the initial-stage condition reported their emotional state once, after reading the news story about the stock market crash. In the late-stage condition, we measured participants' emotional state after each of the four news stories they read.

Because our theorizing centers on stakeholders' emotional deterioration over time as the mechanism that explains why their responses to leader language changes over time, this repeated measurement allowed us to verify that their emotional states did indeed worsen as the crisis persisted. We recognize that participants in the late-stage condition had a more onerous task and spent longer completing the experiment. This was intentional. Simulating the passage of time is an essential component of an experiment designed to test how stakeholder responses change at later (vs. initial) stages of a crisis.

Leader language valence manipulation. We manipulated the CEO's communication valence using messages to their employees addressing the recession. We based the message content on the language we observed in Study 1 as well as words from LIWC's positive and negative emotions dictionary. Leaders across conditions addressed the ongoing recession, asked their employees to keep up their work, and spoke about the company's commitment to supporting them. We endeavored to keep the messages as similar as possible in length and content, varying only the extent to which the messages were positively or negatively worded.

All participants read the first (t1) news article about the stock market crash, reported their emotional responses to the t1 news, and then read a social media post from the CEO addressing the recession. Participants in the initial-stage condition then reported their approval of the CEO and perceptions of the CEO's communication effectiveness (described below). In the late-stage condition, participants read three additional news articles, dated three (t2), six (t3), and twelve (t4) months after the initial stock market crash, as well as three additional CEO communications, one after each news article. They continued to report their emotional states after reading each news article and reported their approval of the CEO and evaluations of

the CEO's communication effectiveness after the final (t4) CEO message. At the end of the experiment, we asked our attention check question, manipulation check questions, and collected demographics.

Measures

Stakeholder emotional responses to the crisis. We focused on three emotions (pessimism, anxiety, and exhaustion) that would likely worsen over the course of a prolonged crisis. We measured stakeholders' emotional responses to the news about the crisis with three bipolar items adapted from Lorr, McNair, & Fisher (1982), using 11-point scales that ranged from very positive (optimistic, secure, energetic) to very negative (pessimistic, anxious, exhausted) anchors. To reinforce the perception of time in the late-stage condition, after each news story, the item stem highlighted the temporal stage of the crisis. At t1 the prompt was: "After reading about yesterday's stock market crash, what are your feelings?"; and at t2: "How would you describe your feelings now that it's three months into the recession?" We used the t1 measures of stakeholders' emotional states as the mediator in the initial-stage condition, and the t4 measures of their emotional states as the mediator in the late-stage condition.

Leadership approval. We measured leadership approval using three items ($\alpha = 0.92$) adapted from Madera & Smith (2009) on a 7-point scale (1 = strongly disagree, 7 = strongly agree; sample item: "I would want this person to continue to be the CEO of the company").

Communication effectiveness. We measured the CEO's communication effectiveness as the mean of three items ($\alpha = 0.91$) adapted from Norman, Avolio, & Luthans (2010) on a 7-point scale (1 = strongly disagree, 7 = strongly agree; sample item: "The CEO communicated effectively with employees"). The complete list of survey questions for both dependent variables can be found in the Online Appendix.

Attention check. As preregistered, we excluded participants ($N=131$) who were unable to recall the name of the CEO whose messages they just read.

Manipulation checks. To verify our manipulation of time, we asked "How much time has elapsed since the stock market crash?" (1 = one day, 2 = a week, 3 = a month, 4 = a year). Participants in the initial-stage condition reported substantially less time having elapsed ($M = 1.14$, $SD = .50$) than participants in the late-stage condition ($M = 3.97$, $SD = .25$, $t(334.83) = 75.053$, $p < .001$). To verify our manipulation of the

CEO's communication valence, we used two items asking the extent to which they agreed that the CEO expressed (1) positive emotions and (2) negative emotions in their statements (1 = strongly disagree, 7 = strongly agree). In the positive language condition, participants reported the CEO expressed significantly more positive ($M = 6.05, SD = .75$) and less negative ($M = 1.94, SD = .96$) emotions than participants in the negative language condition ($M = 3.33, SD = 1.60, t(285.43) = -22.233, p < .001$ for positive emotions, and $M = 5.28, SD = 1.29, t(377.98) = 30.295, p < .001$ for negative emotions). These analyses confirm our manipulations of time and leader language valence were successful.

Results

We first tested the simple effects of crisis stage and leaders' language valence on leadership evaluations with 2 x 2 ANOVAs, with leadership approval and communication effectiveness as dependent variables. We found that positive leader language was associated with higher leadership approval ($b = 1.27, SE = .21, p < .001$). Crisis stage did not independently affect approval, but there was a negative interaction between positive communication and crisis stage on approval ($b = -1.06, SE = .31, p < .001$) (Figure 3, Panel A). Similarly, positive leader language was associated with perceptions of the CEO's communication effectiveness ($b = 1.10, SE = .21, p < .001$), and there was a negative interaction between positive communication and crisis stage ($b = -1.24, SE = .31, p < .001$) (Figure 3, Panel B). However, there was no significant interaction between negative communication and crisis stage on leadership evaluations; stakeholder responses to negatively-valenced leader communication did not change as a function of time. These results replicated what we found in Study 1 for positively-valenced leader language (Hypothesis 1), but not negatively-valenced leader language (Hypothesis 2). We next tested Hypothesis 3, which predicts that stakeholders' emotional states degrade over the course of a prolonged crisis, becoming more pessimistic (H3a), anxious (H3b), and exhausted (H3c) over time. Repeated measures ANOVAs for participants in the prolonged condition confirmed that from t1 to t4, pessimism ($F(3, 612) = 161.46, p < .001, \text{partial } \eta^2 = 0.44$), anxiety ($F(3, 612) = 122.84, p < .001, \text{partial } \eta^2 = 0.38$), and exhaustion ($F(3, 612) = 218.82, p < .001, \text{partial } \eta^2 = 0.51$) all increase significantly (see Figure 4), supporting Hypotheses 3a-c.

----- Insert Figures 3 and 4 about here -----

Hypotheses 4 posited that the relationship of crisis stage and leader communication valence on leadership evaluations would be mediated by stakeholders' emotional responses to the crisis. We tested these hypotheses using Model 14 of the PROCESS macro (Hayes, 2017). The 95% confidence interval for the indices of moderated mediation across both dependent variables and all three mediators all excluded zero, providing support for Hypotheses 4: the mediating relationship of time in crisis on leadership evaluations through stakeholders' pessimism, anxiety, and exhaustion depends on the leaders' language valence. However, the conditional indirect effects are only significant when the leaders' language valence was positive. The complete models are reported in the Online Appendix, with additional models that control for participant demographics (results were unchanged).

When stakeholders read passages in which leaders used positively-valenced language later (vs. initially) in the crisis, their pessimism, anxiety, and exhaustion were higher, which in turn reduced the extent to which they approved the leader or evaluated their communication as effective. In contrast, when stakeholders read passages in which leaders used negatively-valenced language, their leadership evaluations did not change as a function of crisis stage. Figure 5 visualizes the differences in the conditional indirect effects for late (vs. initial) crisis stage on leadership evaluations. It illustrates that stakeholders reported lower approval ratings of the CEO and evaluated their communication as less effective if it remained positively-valenced a year into a prolonged crisis, and that this effect can be explained by employees' worsened emotional state at t4 compared to t1.

----- Insert Figure 5 about here -----

Discussion

Study 2 tested our full theoretical model. As in Study 1, we found that time elapsed in a crisis shapes stakeholders' evaluations of leaders' positively-valenced language, eliciting less approval and lower ratings of communication effectiveness later in the crisis, supporting Hypothesis 1. However, unlike Study 1, we did not find support for Hypothesis 2. Crisis stage did not affect stakeholders' responses to leaders' negatively-valenced language. Consistent with Hypothesis 3, we found that participants reported significantly more pessimism, anxiety, and exhaustion as the crisis progressed. Finally, we found evidence that stakeholders'

worsening emotional states over time explain why their responses to leaders' positive language are more negative in later stages. Their deteriorated emotional states mediated the moderated effect of time (initial vs. late crisis stage) and CEO communication valence on leadership evaluations. This mediation emerged for leaders' positive (but not negative) communication, providing partial support for Hypothesis 4.

GENERAL DISCUSSION

During a crisis, leader communication is critical. Effective communication reassures and motivates stakeholders to endorse leaders' plans for navigating the crisis while supporting stakeholders' emotional and psychological well-being. However, communication in a crisis is not a one-time task. Leaders need to sustain stakeholder support, especially if a crisis becomes protracted. Nevertheless, most research on leadership during crises concentrates on their immediate aftermath, and thus we have known little about how leaders' communication does—or should—evolve as a crisis progresses. Our study addresses this gap by theorizing about time elapsed in a crisis as a critical factor shaping stakeholders' responses to leaders' communications. Focusing on the emotional valence of leaders' communication, we hypothesized that stakeholders would respond less positively to leaders' positively-valenced language, as well as less negatively to leaders' negatively-valenced language, as a crisis persists over time. We argued that this pattern emerges because at the onset of a crisis, positively-valenced language assuages stakeholders' anxiety in the face of the uncertainty the crisis has introduced. As a crisis progresses over time, however, stakeholders' emotions, and therefore their responses to the tone of leaders' language, shift, requiring leaders to adapt their communication strategies accordingly. Stakeholders begin to respond better to leaders whose communication speaks to the strain they have been enduring, and communication that is incongruent or appears to invalidate their experiences begins to backfire.

In a large-scale field study as well as a controlled experiment, we found that the time elapsed since the onset of a crisis increases the likelihood that leaders' positive language backfires, while, in some ways, dampening the risks associated with their use of negatively-valenced language. Though stakeholders' responses to leaders' negative language did become less negative over the first eight months of the pandemic (Study 1), we found no effect of time on stakeholders' responses to leaders' negative language in our experimental simulation of the first year of an economic recession (Study 2). The most consistent evidence

we found was that stakeholders became increasingly *negative* in their responses to leaders' *positive* language over time. It is noteworthy that, by month 8 of the pandemic, the marginal effects of leader communication on stakeholder responses approach zero for every effect *other* than negative responses to leaders' positive language. While time elapsed in a crisis does affect stakeholders' responses to negative language, they appear to become increasingly *indifferent* to it as they become actively more negative about leaders' positive language. The worst thing leaders can do, it seems, is remain unabashedly sunny after months of hardship.

Theoretical Contributions

Crisis leadership. Our study extends crisis leadership in several ways. Theory underpinning crisis leadership has focused on how leaders should prepare in advance for unexpected events (i.e., Janis, 1989; Mitroff, 2004; Perrow, 2007) or focused on the decisions leaders make in the immediate aftermath of a crisis's onset (Bligh et al., 2004a; Pennebaker & Lay, 2002; Wang, Ngai, & Singh, 2021). Studies that have looked at stakeholders' responses to leaders' actions in crises have also focused on a single point in time soon after their onset. In field work, that means in the days or early weeks following an acute event (e.g., Bastardo et al., 2022). Experimental work, similarly, has typically focused on participants' responses to a single, specific stimulus (e.g., Stam et al., 2018). They thus implicitly treat stakeholders' response tendencies as fixed. Responding to calls to focus on time as a key contingency in crisis management (Bundy et al., 2017) and as an unfolding process (Collins et al., 2023), we reveal that stakeholders' responses to leaders' communication during crises are not fixed. Time matters.

Understanding that time changes stakeholders' responses to leaders in crises has important implications for the central role that charismatic leadership theory has held in work on crisis leadership (Davis & Gardner, 2012; Jensen et al., 2023). Our study reveals that the value of charismatic leadership in crises might be time-limited. The optimism and positivity charismatic leaders provide, so sought and appreciated in the early days, becomes a burden to stakeholders later in the game. As a crisis endures, the aspects of charismatic communication that stakeholders found compelling when it began are replaced with a preference for communication that validates their distress. These findings bring to light the relevance of new theories for

crisis management, in particular theories that focus on stakeholders, and more specifically those that focus on leaders' attunement and responsiveness to followers' emotional states.

Leadership and emotions. Work on leadership and emotions has tended to focus on how leaders can use their own emotional displays strategically to elicit desired outcomes (Koning & Van Kleef, 2015; Van Kleef et al., 2009; Van Knippenberg & Van Kleef, 2016). Our findings stress the importance of looking in the opposite direction: that leaders benefit from emotional attunement to followers' emotional states. While some voices in leadership research have addressed leaders' role in group emotion regulation (de Haan & Nilsson, 2023), crisis leadership theory, and leadership theory more broadly, would benefit from taking the task of responding to and regulating others' emotions more seriously (Bradley, Greer, Trinh, & Sanchez-Burks, 2024).

Relatedly, our results speak to the relevance of the literature on close relationships to leadership theory. While high-quality relationships between leaders and their followers are acknowledged as important in many leadership theories, such as transformational leadership theory (Bass, 1998), and leader-member exchange (LMX; Graen & Uhl-Bien, 1995), how those relationships are best developed and sustained has been elaborated less. The literature on close relationships, in particular on supporting healthy relationships in a psychotherapeutic context (Linehan, 1997; Safran & Muran, 2000) has explored this in detail. Our findings underscore the important role leaders have as a "mirror" to their stakeholders, and the benefits that accrue from emotional attunement with and validation of one's followers (cf., Boyatzis et al., 2012).

Leader communication. Our results also enhance what we know about how to best deliver bad news (Bies, 2013; Lee, 2006; Margolis & Molinsky, 2008; Molinsky & Margolis, 2005), and extend the broader literature on leader communication (Liu et al., 2023). Research on communicating bad news has focused on everything from the emotional costs leaders incur when they deliver it (Margolis & Molinsky, 2008), the best communication mediums (i.e., written or verbal) to deliver it (Shapiro, Buttner, & Barry, 1994), and the most helpful informational content to include when it's delivered (Wanberg, Gavin, & Bunce, 2006). Yet it has paid little attention to either its emotional tone or temporal dynamics (Bies, 2013). We show that the emotional valence of leaders' communication about a negative situation (such as a crisis) affects how stakeholders

respond to it, and the emotional valence most likely to elicit positive stakeholder responses shifts over time. Stakeholders respond well to positivity at first, but as a crisis becomes prolonged and suffering accumulates, positive leader language provokes negative stakeholder responses, while negative leader language becomes less aversive.

These findings respond to recent calls for more research viewing bad news delivery as a dynamic process between senders and recipients (Kitz et al., 2023) by offering evidence that taking recipients' current emotional states into consideration improves their responses to senders' communication. Our results support the limited research exploring "the good in the bad", which finds that senders who express negative emotions when delivering bad news can support recipients' resilience and bolster their perceptions of senders' authenticity (Kitz et al., 2023). Our study identifies stakeholders' emotional states as a mechanism that conditions what effective leader communication looks like, aligning with management research that underscores the importance of interpersonal sensitivity in leadership effectiveness (Holt, Bobocel, & Chen, 2021; Molinsky & Margolis, 2005), as well as healthcare communication research documenting the importance of attending to patients' emotional cues and explicitly acknowledging their suffering when delivering difficult prognoses (Barclay, Blackhall, & Tulskey, 2007).

Implications for Practice

Our findings have several practical implications, especially for those leading others through a crisis. While prevailing wisdom suggests that leaders should remain positive and communicate optimism and hope in a crisis, our work provides evidence that stakeholders' responses to leaders' communication depends on their emotional states at the time. Managers should not assume that the emotional tenor of their language has a consistent effect on stakeholders' responses. Instead, they need to recognize the benefit of first seeking to understand and attune to their stakeholders' evolving emotional states, and alter their communication accordingly. Actions such as town halls and pulse surveys can support leaders' understanding of their stakeholders' evolving emotional states in more nuanced ways, and serve as useful information they can use to adapt their communication style in real time.

A second practical implication of our findings is that managers may want to embrace negative language under certain conditions. Leaders tend to postpone or avoid delivering bad news as an emotionally heavy task triggering their own guilt and anxiety (Molinsky & Margolis, 2005) and belief that it could hurt their stakeholders or their organization's reputation (Bies, 2013). Our evidence suggests that when the time is right, communicating negative information more transparently may be less damaging than leaders anticipate—and may even be viewed as appropriate by stakeholders (Levine, Roberts, & Cohen, 2020). Stakeholders are likely to reward leaders for using communication that fits with their reality, even if that communication announces distressing news, makes pessimistic forecasts, or even admits leaders' own negative emotional states. These insights invite novel research themes about developing leaders' emotional skills (Edelman & van Knippenberg, 2016), particularly in difficult times.

Limitations and Future Research Directions

Although our study used a robust, multi-method research design, it naturally features limitations that inform future research directions. First, our archival setting focuses on political leaders. As a result, generalizability to other organizational settings may be a concern. Both national and organizational leaders require their stakeholders' approval. Still, there are major differences between public and private entities that may affect how stakeholders respond in these different contexts. For instance, in democracies, citizens have the right to vote out their heads of governments, but employees cannot vote out their top executives, and may even face retaliation for expressing disapproval of management. As a result, stakeholders in corporate settings may react less harshly if leaders continue using positive communication during prolonged crises. Although our experimental design partially addresses this concern by using an organizational context, future research would benefit from field studies in corporate settings.

Second, communicative effectiveness for leaders in crises may differ as a function of the type of crisis being faced (Coombs, 1995). Both our studies focused on external crises affecting large scale populations over extended periods of time and which the leaders had no direct role in creating. Crises that begin internally—such as misconduct, product failures, or organizational accidents—likely demand different leadership responses, because leaders can be considered at least partially accountable for them. Leader

communication in the aftermath of internal crises often includes an apology (Coombs & Holladay, 2008; Hargie, Stapleton, & Tourish, 2010), which requires at least some negatively-valenced language (Wang et al., 2021). Thus, for internal crises, stakeholders may respond more positively to leaders' negative language early on, because it signals remorse and accountability; yet if they persist in using negative language without clear evidence of corrective action, stakeholders may interpret it as empty rhetoric, or a sign that the underlying problems remain unaddressed, increasing stakeholders' negative reactions over time. Future research could consider contingency-based theorizing about crisis response strategies (Coombs & Holladay, 2002) and explore how responses to positively- and negatively-valenced language evolves over time across different types of crises.

Third, although we theorize about prolonged crises, it is unclear whether thresholds for these effects might emerge, or, indeed, dissipate. What we can say with confidence is that stakeholders' responses to leader communication change over time. We invite scholars to explore the temporal boundaries that may influence what effective leader communication looks like at different points of time. Another interesting research direction speaks to how leaders should sequence their communication during adverse events. Our research shows that positive language faces backlash and negative language is penalized less harshly over time. However, the optimal timing for leaders to shift the valence of their communication, and whether those shifts should be gradual, abrupt, or contingent on specific events, remains an open question.

Fourth, this study solely observes leaders in WEIRD (Western, Educated, Industrialized, Rich and Democratic) contexts with mostly white male leaders. Culture, gender, and race are important drivers of leader-stakeholder interactions and therefore represent an untestable potential moderator of these findings (Dupree, 2024; Lu, Swaab, & Galinsky, 2022). For instance, leaders' communication may elicit more positive responses in authoritarian countries where stakeholders experience less freedom to disagree with their leaders. In addition, female leaders' emotionality is often penalized more harshly than men's (Brescoll & Uhlmann, 2008; He, Jachimowicz, & Moore, 2025), and thus effects for female leaders may be more extreme. While global leaders are still mostly white men (Hinchliffe, 2021; Wahba, 2020), we encourage future work to understand the role of demographic attributes in these dynamics.

We explained the shifting sensitivities to the valence of leaders' language by linking them to stakeholders' deteriorating emotional states through a prolonged crisis. Though we found participants' emotional states deteriorated during the simulated time frame in the experiment, evidence suggests that individuals adapt to hardship (Shuster et al., 2021), and nuanced longitudinal findings stress that emotional responses to prolonged negative events are dynamic and can change in both directions (Wu, Liu, Li, & Zhao, 2026). To the extent that individuals' negative states in chronically challenging conditions recalibrate, our findings might not always follow the same pattern. However, the theoretical implications we find most interesting are less about the trajectory of stakeholders' emotional states over time in crises than the importance of leaders' sensitivity to stakeholders' emotional states when they communicate.

Finally, our additional analyses of President Trump's communications during COVID-19 reveal an important boundary condition that complicates the implications of our results. The emotional tenor of Trump's language was associated with more positive responses as the pandemic persisted, *regardless* of its valence. Trump's stakeholders appear to be responding positively to emotional intensity rather than to a specific emotional valence. This differed from our other leaders, who received increasing backlash to positively-valenced language over time. We suspect that one reason for this is the uniqueness of Trump as a leadership case, including his distinct communication style (Ross & Rivers, 2018), iconoclastic approach to the COVID-19 crisis (Kapucu & Moynihan, 2021), and unusually strong relationship with his supporters (Dumitrescu & Ross, 2020), making him an outlier here. Compared to his political peers, Trump's stakeholders endorse his communications with significantly more likes and retweets, especially before elections (Lee & Xu, 2018). We expect that unpacking the reasons behind his uniqueness will occupy scholars long into the future.

A second, related perspective on why stakeholders' responses to Trump differed from the other five leaders involves polarization. In the last four decades, political polarization has increased more rapidly in U.S. than elsewhere (Boxell, Gentzkow, & Shapiro, 2024). Polarization increases affective activation (Iyengar & Westwood, 2014). Trump's stakeholders thus might have responded increasingly positively to the absolute level of affect in his communications, regardless of its valence, because emotionally-activated stakeholders

prefer emotionally-activated communications. This explanation is consistent with our theorization that leaders' attunement to and emotional congruence with one's stakeholders is key to their communications as effective. Effective communication in a crisis, in other words, is determined by followers' current emotional state rather than exclusively by what stage of the crisis they are in, though the crisis stage clearly affects that emotional state. Clarifying such boundary conditions would help translate our findings into more actionable guidance for leaders by specifying which communication strategies work for which stakeholders, at what stages of a crisis, and under what reputational or political conditions.

CONCLUSION

Our study is the first to theorize the role of time in leaders' communication effectiveness during crises. We pair an archival analysis of stakeholders' social media responses to leader communications during the COVID-19 pandemic with an experimental simulation and find that, as a crisis persists, stakeholders respond more negatively (in general) to leaders' positive language, as well as less negatively to their negative language. The simulation further indicates that these shifts can be explained in part by stakeholders' heightened pessimism, anxiety, and exhaustion in later stages of the crisis. Jointly, these findings show that effective leader communication depends on timing as well as sensitivity to stakeholders' emotional states. By highlighting the importance of attunement to stakeholders' dynamic emotional states, we offer important insights into how leaders can better protect and guide their stakeholders through periods of prolonged strain and hardship.

REFERENCES

- Afanasyev, D. O., Fedorova, E., & Ledyeva, S. (2021). Strength of words: Donald Trump's tweets, sanctions and Russia's ruble. *Journal of Economic Behavior and Organization*, 184, 253-277.
- Aiello, L. M., Quercia, D., Zhou, K., Constantinides, M., Šćepanović, S., & Joglekar, S. (2021). How epidemic psychology works on Twitter: evolution of responses to the COVID-19 pandemic in the U.S. *Humanities and Social Sciences Communications*, 8(1).
- Barclay, J. S., Blackhall, L. J., & Tulsy, J. A. (2007). Communication strategies and cultural issues in the delivery of bad news. *Journal of Palliative Medicine*, 10(4), 958-977.
- Bass, B. M. (1998). *Transformational leadership: Industrial, military, and educational impact*.: Lawrence Erlbaum Associates Publishers.
- Bastardo, N., Jacquot, P., & Antonakis, J. (2022). Effect of crises on charisma signaling: A regression discontinuity design. *The Leadership Quarterly*.
- Baumeister, R. F., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. (2001). Bad is stronger than good. *Review of General Psychology*, 5(4), 323-370.
- Beelitz, A., & Merkl-Davies, D. M. (2012). Using discourse to restore organisational legitimacy: 'CEO-speak' after an incident in a German nuclear power plant. *Journal of Business Ethics*, 108(1), 101-120.
- Benitez, C., Howard, K. P., & Cheavens, J. S. (2020). The effect of validation and invalidation on positive and negative affective experiences. *The journal of positive psychology*, 17(1), 46-58.
- Benoit, W. L., & Henson, J. R. (2009). President Bush's image repair discourse on Hurricane Katrina. *Public Relations Review*, 35(1), 40-46.
- Bies, R. J. (2013). The Delivery of Bad News in Organizations. *Journal of Management*, 39(1), 136-162.
- Bligh, M. C., Kohles, J. C., & Meindl, J. R. (2004a). Charisma under crisis: Presidential leadership, rhetoric, and media responses before and after the September 11th terrorist attacks. *The Leadership Quarterly*, 15(2), 211-239.
- Bligh, M. C., Kohles, J. C., & Meindl, J. R. (2004b). Charting the language of leadership: A methodological investigation of President Bush and the crisis of 9/11. *Journal of Applied Psychology*, 89(3), 562-574.
- Bono, J. E., & Ilies, R. (2006). Charisma, positive emotions and mood contagion. *The Leadership Quarterly*, 17(4), 317-334.
- Boxell, L., Gentzkow, M., & Shapiro, J. M. (2024). Cross-Country Trends in Affective Polarization. *Review of Economics and Statistics*, 106(2), 557-565.
- Boyatzis, R. E., Passarelli, A. M., Koenig, K., Lowe, M., Mathew, B., Stoller, J. K., & Phillips, M. (2012). Examination of the neural substrates activated in memories of experiences with resonant and dissonant leaders. *The Leadership Quarterly*, 23(2), 259-272.
- Boyle, M. P., Schmierbach, M., Armstrong, C. L., McLeod, D. M., Shah, D. V., & Pan, Z. (2004). Information Seeking and Emotional Reactions to the September 11 Terrorist Attacks. *Journalism & Mass Communication Quarterly*, 81(1), 155-167.
- Bradley, C. M., Greer, L. L., Trinh, E., & Sanchez-Burks, J. (2024). Responding to the Emotions of Others at Work: A Review and Integrative Theoretical Framework for the Effects of Emotion-Response Strategies on Work-Related Outcomes. *Academy of Management Annals*, 18(1), 3-43.
- Brady, W. J., Wills, J. A., Burkart, D., Jost, J. T., & Van Bavel, J. J. (2019). An ideological asymmetry in the diffusion of moralized content on social media among political leaders. *Journal of Experimental Psychology: General*, 148(10), 1802-1813.
- Brescoll, V. L., & Uhlmann, E. L. (2008). Can an angry woman get ahead? Status conferral, gender, and expression of emotion in the workplace. *Psychological Science*, 19(3), 268-275.
- Bridoux, F., Bundy, J., Gond, J.-P., Haack, P., Petriglieri, J. L., Stephens, J. P., & Sutcliffe, K. M. (2024). The New Normal: Prescriptive Theorizing for Positive Organizational Impact in an Age of Disruption. *Academy of Management Review*, 49(4), 705-717.
- Bucy, E. P. (2000). Emotional and evaluative consequences of inappropriate leader displays. *Communication Research*, 27(2), 194-226.

- Bundy, J., & Pfarrer, M. D. (2015). A Burden of Responsibility: The Role of Social Approval at the Onset of a Crisis. *Academy of Management Review*, 40(3), 345-369.
- Bundy, J., Pfarrer, M. D., Short, C. E., & Coombs, W. T. (2017). Crises and Crisis Management: Integration, Interpretation, and Research Development. *Journal of Management*, 43(6), 1661-1692.
- Butler, E. A., & Randall, A. K. (2012). Emotional Coregulation in Close Relationships. *Emotion Review*, 5(2), 202-210.
- Cameron, K. (2012). *Positive leadership: Strategies for extraordinary performance*. Berrett-Koehler Publishers.
- Collins, M. D., Dasborough, M. T., Gregg, H. R., Xu, C., Midel Deen, C., He, Y., & Restubog, S. L. D. (2023). Traversing the storm: An interdisciplinary review of crisis leadership. *The Leadership Quarterly*, 34(1).
- Coombs, W. T. (1995). Choosing the Right Words: The Development of Guidelines for the Selection of the "Appropriate" Crisis-Response Strategies. *Management Communication Quarterly*, 8(4), 447-476.
- Coombs, W. T., & Holladay, S. J. (2002). Helping Crisis Managers Protect Reputational Assets : Initial Tests of the Situational Crisis Communication Theory. *Management Communication Quarterly*, 16(2), 165-186.
- Coombs, W. T., & Holladay, S. J. (2008). Comparing apology to equivalent crisis response strategies: Clarifying apology's role and value in crisis communication. *Public Relations Review*, 34(3), 252-257.
- Crosina, E., Frey, E., Corbett, A., & Greenberg, D. (2024). From Negative Emotions to Entrepreneurial Mindset: A Model of Learning Through Experiential Entrepreneurship Education. *Academy of Management Learning & Education*, 23(1), 88-127.
- Damen, F., van Knippenberg, B., & van Knippenberg, D. (2008). Affective match in leadership: Leader emotional displays, follower positive affect, and follower performance. *Journal of Applied Social Psychology*, 38(4), 868-902.
- Davis, K. M., & Gardner, W. L. (2012). Charisma under crisis revisited: Presidential leadership, perceived leader effectiveness, and contextual influences. *The Leadership Quarterly*, 23(5), 918-933.
- de Haan, E., & Nilsson, V. O. (2023). What Can We Know about the Effectiveness of Coaching? A Meta-Analysis Based Only on Randomized Controlled Trials. *Academy of Management Learning & Education*, 22(4), 641-661.
- Decter-Frain, A., & Frimer, J. A. (2016). Impressive Words: Linguistic Predictors of Public Approval of the U.S. Congress. *Frontiers in Psychology*, 7.
- DeSteno, D., Petty, R. E., Rucker, D. D., Wegener, D. T., & Braverman, J. (2004). Discrete emotions and persuasion: the role of emotion-induced expectancies. *Journal of Personality and Social Psychology*, 86(1), 43-56.
- Dumitrescu, D., & Ross, A. R. N. (2020). Embedding, quoting, or paraphrasing? Investigating the effects of political leaders' tweets in online news articles: The case of Donald Trump. *New Media & Society*, 23(8), 2279-2302.
- Dupree, C. H. (2024). Words of a Leader: The Importance of Intersectionality for Understanding Women Leaders' Use of Dominant Language and How Others Receive It. *Administrative Science Quarterly*, 1-53.
- Dworakowski, O., Boyd, R. L., Meier, T., Kuppens, P., Mehl, M. R., Nussbeck, F. W., & Horn, A. B. (2023). Twitter language samples reflect collective emotional responses following political leaders' rhetoric during the pandemic across four countries. *Psychology of Language and Communication*, 350-383.
- Edelman, P. J., & van Knippenberg, D. (2016). Training Leader Emotion Regulation and Leadership Effectiveness. *Journal of Business and Psychology*, 32(6), 747-757.
- Fang, C., Kim, J.-H. J., & Milliken, F. J. (2014). When bad news is sugarcoated: Information distortion, organizational search and the behavioral theory of the firm. *Strategic Management Journal*, 35(8), 1186-1201.
- Gaddis, B., Connolly, S., & Mumford, M. D. (2004). Failure feedback as an affective event: Influences of leader affect on subordinate attitudes and performance. *The Leadership Quarterly*, 15(5), 663-686.
- Gardner, W. L., Fischer, D., & Hunt, J. G. (2009). Emotional labor and leadership: A threat to authenticity? *The Leadership Quarterly*, 20(3), 466-482.

- Gifford, R. E., van de Baan, F. C., Westra, D., Ruwaard, D., Zijlstra, F. R. H., Poesen, L. T., & Fleuren, B. P. I. (2022). There and back again. Examining the development of employee commitment during a prolonged crisis. *SSM - Qualitative Research in Health*, 2, 100053.
- Giuntella, O., Hyde, K., Saccardo, S., & Sadoff, S. (2021). Lifestyle and mental health disruptions during COVID-19. *Proceedings of the National Academy of Sciences*, 118(9).
- Graen, G. B., & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. *The Leadership Quarterly*, 6(2), 219-247.
- Grebelsky-Lichtman, T., & Katz, R. (2020). Gender Effect on Political Leaders' Nonverbal Communicative Structure during the COVID-19 Crisis. *International Journal of Environmental Research and Public Health*, 17(21).
- Gruber, D. A., Smerek, R. E., Thomas-Hunt, M. C., & James, E. H. (2015). The real-time power of Twitter: Crisis management and leadership in an age of social media. *Business Horizons*, 58(2), 163-172.
- Guntuku, S. C., Sherman, G., Stokes, D. C., Agarwal, A. K., Seltzer, E., Merchant, R. M., & Ungar, L. H. (2020). Tracking Mental Health and Symptom Mentions on Twitter During COVID-19. *Journal of general internal medicine*, 35(9), 2798-2800.
- Hargie, O., Stapleton, K., & Tourish, D. (2010). Interpretations of CEO public apologies for the banking crisis: Attributions of blame and avoidance of responsibility. *Organization*, 17(6), 721-742.
- Hatfield, E., Cacioppo, J. T., & Rapson, R. L. (1993). Emotional contagion. *Current Directions in Psychological Science*, 2(3), 96-100.
- Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford publications.
- He, J. C., Jachimowicz, J. M., & Moore, C. (2025). Passion Penalizes Women and Advantages (Unexceptional) Men in High-Potential Designations. *Organization Science*, 36(4), 1438-1465.
- Hinchliffe, E. (2021). The female CEOs on this year's Fortune 500 just broke three all-time records. Retrieved from <https://fortune.com/2021/06/02/female-ceos-fortune-500-2021-women-ceo-list-roz-brewer-walgreens-karen-lynch-cvs-thasunda-brown-duckett-tiaa/>
- Holt, L., Bobocel, D. R., & Chen, V. (2021). Delivering bad news fairly: Higher construal level promotes interactional justice enactment through perspective taking. *Journal of Organizational Behavior*, 42(6), 708-725.
- Howe, L. C., Giurge, L. M., Wagner, A. F., & Menges, J. I. (2024). CEOs Showing Humanity: Human Care Statements in Conference Calls and Stock Market Performance during a Crisis. *Academy of Management Discoveries*, 10(4), 589-610.
- Iyengar, S., & Westwood, S. J. (2014). Fear and Loathing across Party Lines: New Evidence on Group Polarization. *American Journal of Political Science*, 59(3), 690-707.
- James, E. H., Wooten, L. P., & Dushek, K. (2011). Crisis Management: Informing a New Leadership Research Agenda. *Academy of Management Annals*, 5(1), 455-493.
- Janis, I. L. (1989). *Crucial decisions: Leadership in policymaking and crisis management*. Free Press.
- Janoff-Bulman, R. (1992). *Shattered assumptions: Towards a new psychology of trauma*. New York, NY, US: Free Press.
- Jensen, J. D., Barbour, J. B., Lillie, H. M., Ratcliff, C. L., Pokharel, M., & King, A. J. (2025). Perceptions of Pandemic Messaging Across 36 Weeks: A Repeated Cross-Section Design With U.S. Adults. *Science Communication*, 48(1), 59-92.
- Jensen, U. T., Rohner, D., Bornet, O., Carron, D., Garner, P., Loupi, D., & Antonakis, J. (2023). Combating COVID-19 with charisma: Evidence on governor speeches in the United States. *The Leadership Quarterly*, 101702.
- Johnson, S. K. (2009). Do you feel what I feel? Mood contagion and leadership outcomes. *The Leadership Quarterly*, 20(5), 814-827.
- Jordan, K. N., Pennebaker, J. W., & Ehrig, C. (2018). The 2016 U.S. presidential candidates and how people tweeted about them. *SAGE Open*, 8(3).

- Jordan, P. J., & Lindebaum, D. (2015). A model of within person variation in leadership: Emotion regulation and scripts as predictors of situationally appropriate leadership. *The Leadership Quarterly*, 26(4), 594-605.
- Kapucu, N., & Moynihan, D. (2021). Trump's (mis)management of the COVID-19 pandemic in the US. *Policy Studies*, 42(5-6), 592-610.
- Kitz, C. C., Barclay, L. J., & Breitsohl, H. (2023). The delivery of bad news: An integrative review and path forward. *Human Resource Management Review*, 33(3).
- Koning, L. F., & Van Kleef, G. A. (2015). How leaders' emotional displays shape followers' organizational citizenship behavior. *The Leadership Quarterly*, 26(4), 489-501.
- Lee, F. (2006). Being Polite and Keeping MUM: How Bad News is Communicated in Organizational Hierarchies. *Journal of Applied Social Psychology*, 23(14), 1124-1149.
- Lee, G. K., Lampel, J., & Shapira, Z. (2020). After the Storm Has Passed: Translating Crisis Experience into Useful Knowledge. *Organization Science*, 31(4), 1037-1051.
- Lee, J., & Xu, W. (2018). The more attacks, the more retweets: Trump's and Clinton's agenda setting on Twitter. *Public Relations Review*, 44(2), 201-213.
- Levine, E. E., Roberts, A. R., & Cohen, T. R. (2020). Difficult conversations: navigating the tension between honesty and benevolence. *Current Opinion in Psychology*, 31, 38-43.
- Lewis, K. M. (2000). When leaders display emotion: How followers respond to negative emotional expression of male and female leaders. *Journal of Organizational Behavior*, 21(2), 221-234.
- Linehan, M. M. (1997). Validation and psychotherapy. In *Empathy reconsidered: New directions in psychotherapy*. (pp. 353-392): American Psychological Association.
- Liu, B. F. (2007). President Bush's major post-Katrina speeches: Enhancing image repair discourse theory applied to the public sector. *Public Relations Review*, 33(1), 40-48.
- Liu, E. H., Chambers, C. R., & Moore, C. (2023). Fifty years of research on leader communication: What we know and where we are going. *The Leadership Quarterly*, 34(6).
- Lorr, M., McNair, D. M., & Fisher, S. U. (1982). Evidence for bipolar mood states. *Journal of Personality Assessment*, 46(4), 432-436.
- Lu, J. G., Swaab, R. I., & Galinsky, A. D. (2022). Global Leaders for Global Teams: Leaders with Multicultural Experiences Communicate and Lead More Effectively, Especially in Multinational Teams. *Organization Science*, 33(4), 1554-1573.
- Madera, J. M., & Smith, D. B. (2009). The effects of leader negative emotions on evaluations of leadership in a crisis situation: The role of anger and sadness. *The Leadership Quarterly*, 20(2), 103-114.
- Marciano, H., Kimhi, S., Eshel, Y., & Adini, B. (2024). Impact of prolonged social crisis on resilience and coping indicators. *PLoS One*, 19(8), e0305542.
- Margolis, J. D., & Molinsky, A. (2008). Navigating The Bind of Necessary Evils: Psychological Engagement and The Production of Interpersonally Sensitive Behavior. *Academy of Management Journal*, 51(5), 847-872.
- Mathieu, E., Ritchie, H., Ortiz-Ospina, E., Roser, M., Hasell, J., Appel, C., . . . Rod  s-Guirao, L. (2021). A global database of COVID-19 vaccinations. *Nature Human Behaviour*, 5(7), 947-953.
- Medeiros, K. E., Crayne, M. P., Griffith, J. A., Hardy, J. H., & Damadzic, A. (2022). Leader sensemaking style in response to crisis: Consequences and insights from the COVID-19 pandemic. *Personality and Individual Differences*, 187.
- Mitroff, I. (2004). *Crisis leadership: Planning for the unthinkable*. New York: Chelsea House.
- Molinsky, A., & Margolis, J. (2005). Necessary Evils and Interpersonal Sensitivity in Organizations. *Academy of Management Review*, 30(2), 245-268.
- Montiel, C. J., Uyheng, J., & Dela Paz, E. (2021). The language of pandemic leaderships: Mapping political rhetoric during the COVID-19 outbreak. *Political Psychology*, 42(5), 747-766.
- Mousavi, R., & Gu, B. (2024). Resilience Messaging: The Effect of Governors' Social Media Communications on Community Compliance During a Public Health Crisis. *Information Systems Research*, 35(2), 505-527.
- Naidoo, L. J., & Lord, R. G. (2008). Speech imagery and perceptions of charisma: The mediating role of positive affect. *The Leadership Quarterly*, 19(3), 283-296.

- Newcombe, M. J., & Ashkanasy, N. M. (2002). The role of affect and affective congruence in perceptions of leaders: an experimental study. *The Leadership Quarterly*, 13(5), 601-614.
- Norman, S. M., Avolio, B. J., & Luthans, F. (2010). The impact of positivity and transparency on trust in leaders and their perceived effectiveness. *The Leadership Quarterly*, 21(3), 350-364.
- Omer, H., & Alon, N. (1994). The continuity principle: A unified approach to disaster and trauma. *American Journal of Community Psychology*, 22(2), 273-287.
- Parke, M. R., Seo, M.-G., Hu, X., & Jin, S. (2022). The Creative and Cross-Functional Benefits of Wearing Hearts on Sleeves: Authentic Affect Climate, Information Elaboration, and Team Creativity. *Organization Science*, 33(2), 600-623.
- Parker, C. F., & Stern, E. K. (2022). The Trump Administration and the COVID-19 crisis: Exploring the warning-response problems and missed opportunities of a public health emergency. *Public Administration*, 100(3), 616-632.
- Pennebaker, J. W., & Lay, T. C. (2002). Language use and personality during crises: Analyses of mayor Rudolph Giuliani's press conferences. *Journal of Research in Personality*, 36(3), 271-282.
- Perrow, C. (2007). *The next catastrophe: Reducing our vulnerabilities to natural, industrial, and terrorist disasters*. : Princeton University Press.
- Riggio, R. E., & Newstead, T. (2023). Crisis Leadership. *Annual Review of Organizational Psychology and Organizational Behavior*, 10(1), 201-224.
- Ross, A. S., & Rivers, D. J. (2018). Discursive Deflection: Accusation of “Fake News” and the Spread of Mis- and Disinformation in the Tweets of President Trump. *Social Media + Society*, 1-12.
- Roulet, T. J., & Bothello, J. (2023). An Event-System Perspective on Disruption: Theorizing the Pandemic and Other Discontinuities Through Historical and Fictional Accounts of the Plague. *Academy of Management Review*, 48(4), 772-789.
- Rutledge, P. E. (2020). Trump, COVID-19, and the War on Expertise. *The American Review of Public Administration*, 50(6-7), 505-511.
- Safran, J. D., & Muran, J. C. (2000). *Negotiating the therapeutic alliance: A relational treatment guide*.: Guilford Press.
- Schowalter, A. F., & Volmer, J. (2024). Trajectories and Associations of Perceived Servant Leadership and Teacher Exhaustion During the First Months of a Crisis. *Occupational Health Science*, 9(1), 57-88.
- Schreiber, R. E., & Veilleux, J. C. (2022). Perceived invalidation of emotion uniquely predicts affective distress: Implications for the role of interpersonal factors in emotional experience. *Personality and Individual Differences*, 184.
- Schuler, E. R., & Boals, A. (2016). Shattering world assumptions: A prospective view of the impact of adverse events on world assumptions. *Psychological Trauma: Theory, Research, Practice, and Policy*, 8(3), 259-266.
- Sergent, K., & Stajkovic, A. D. (2020). Women's leadership is associated with fewer deaths during the COVID-19 crisis: Quantitative and qualitative analyses of United States governors. *Journal of Applied Psychology*, 105(8), 771-783.
- Shamir, B. (2011). Leadership takes time: Some implications of (not) taking time seriously in leadership research. *The Leadership Quarterly*, 22(2), 307-315.
- Shapiro, D. L., Buttner, E. H., & Barry, B. (1994). Explanations: What Factors Enhance Their Perceived Adequacy? *Organizational Behavior and Human Decision Processes*, 58(3), 346-368.
- Shields, S. A. (2005). The Politics of Emotion in Everyday Life: “Appropriate” Emotion and Claims on Identity. *Review of General Psychology*, 9(1), 3-15.
- Shulman, H. C., Bullock, O. M., & Riggs, E. E. (2021). The Interplay of Jargon, Motivation, and Fatigue While Processing COVID-19 Crisis Communication Over Time. *Journal of Language and Social Psychology*, 40(5-6), 546-573.
- Shuster, A., O'Brien, M., Luo, Y., Berner, L. A., Perl, O., Heflin, M., . . . Gu, X. (2021). Emotional adaptation during a crisis: decline in anxiety and depression after the initial weeks of COVID-19 in the United States. *Translational Psychiatry*, 11(1), 435.
- Skade, L., Lehrer, E., Hamdali, Y., & Koch, J. (2024). The Temporality of Crisis and the Crisis of Temporality: On the Construction and Modulation of Urgency During Prolonged Crises. *Journal of Management Studies*, 62(3), 1087-1120.

- Slaughter, J. E., Gabriel, A. S., Ganster, M. L., Vaziri, H., & MacGowan, R. L. (2021). Getting worse or getting better? Understanding the antecedents and consequences of emotion profile transitions during COVID-19-induced organizational crisis. *Journal of Applied Psychology*, 106(8), 1118-1136.
- Stam, D., van Knippenberg, D., Wisse, B., & Nederveen Pieterse, A. (2018). Motivation in words: Promotion- and prevention-oriented leader communication in times of crisis. *Journal of Management*, 44(7), 2859-2887.
- Sy, T., Côté, S., & Saavedra, R. (2005). The Contagious Leader: Impact of the Leader's Mood on the Mood of Group Members, Group Affective Tone, and Group Processes. *Journal of Applied Psychology*, 90(2), 295-305.
- Szczurek, L., Monin, B., & Gross, J. J. (2012). The Stranger effect: the rejection of affective deviants. *Psychological Science*, 23(10), 1105-1111.
- Tausczik, Y. R., & Pennebaker, J. W. (2010). The psychological meaning of words: LIWC and computerized text analysis methods. *Journal of Language and Social Psychology*, 29(1), 24-54.
- Terry, P. C., Parsons-Smith, R. L., & Terry, V. R. (2020). Mood Responses Associated With COVID-19 Restrictions. *Frontiers in Psychology*, 11, 589598.
- Torrès, O., Benzari, A., Fisch, C., Mukerjee, J., Swalhi, A., & Thurik, R. (2021). Risk of burnout in French entrepreneurs during the COVID-19 crisis. *Small Business Economics*, 58(2), 717-739.
- Tumasjan, A., Sprenger, T. O., Sandner, P. G., & Welpe, I. M. (2011). Election Forecasts with Twitter—How 140 Characters Reflect the Political Landscape. *Social Science Computer Review*, 29(4), 402-418.
- Van Der Vegt, G. S., Essens, P., Wahlström, M., & George, G. (2015). Managing Risk and Resilience. *Academy of Management Journal*, 58(4), 971-980.
- Van Kleef, G. A., & Côté, S. (2007). Expressing anger in conflict: When it helps and when it hurts. *Journal of Applied Psychology*, 92(6), 1557-1569.
- Van Kleef, G. A., Homan, A. C., Beersma, B., Van Knippenberg, D., Van Knippenberg, B., & Damen, F. (2009). Searing sentiment or cold calculation? The effects of leader emotional displays on team performance depend on follower epistemic motivation. *Academy of Management Journal*, 52(3), 562-580.
- Van Knippenberg, D., & Van Kleef, G. A. (2016). Leadership and affect: Moving the hearts and minds of followers. *Academy of Management Annals*, 10(1), 799-840.
- Visser, V. A., Van Knippenberg, D., Van Kleef, G. A., & Wisse, B. (2013). How leader displays of happiness and sadness influence follower performance: Emotional contagion and creative versus analytical performance. *The Leadership Quarterly*, 24(1), 172-188.
- Wahba, P. (2020). The number of black CEOs in the Fortune 500 remains very low. Retrieved from <https://fortune.com/2020/06/01/black-ceos-fortune-500-2020-african-american-business-leaders/>
- Wanberg, C. R., Gavin, M. B., & Bunce, L. W. (2006). Perceived Fairness of Layoffs among Individuals Who Have Been Laid Off: A Longitudinal Study. *Personnel Psychology*, 52(1), 59-84.
- Wang, Q., Ngai, C. S.-B., & Singh, R. G. (2021). A Discursive Analysis of Crisis Response Strategies in CEO Apologies—Drawing on Linguistic Insights from the Appraisal Framework. *Management Communication Quarterly*, 35(4), 602-622.
- Williams, T. A., Gruber, D. A., Sutcliffe, K. M., Shepherd, D. A., & Zhao, E. Y. (2017). Organizational Response to Adversity: Fusing Crisis Management and Resilience Research Streams. *Academy of Management Annals*, 11(2), 733-769.
- Wilson, T. D., & Gilbert, D. T. (2008). Explaining Away: A Model of Affective Adaptation. *Perspectives on Psychological Science*, 3(5), 370-386.
- Wu, X.-K., Liu, Y., Li, W., & Zhao, T.-F. (2026). Public emotional dynamics in prolonged cyclical crisis events: A longitudinal perspective. *Telematics and Informatics Reports*, 21.
- Wu, Y. L., Shao, B., Newman, A., & Schwarz, G. (2021). Crisis leadership: A review and future research agenda. *The Leadership Quarterly*, 32(6).
- Zachariae, R., Pedersen, C. G., Jensen, A. B., Ehrnrooth, E., Rossen, P. B., & von der Maase, H. (2003). Association of perceived physician communication style with patient satisfaction, distress, cancer-related self-efficacy, and perceived control over the disease. *British Journal of Cancer*, 88(5), 658-665.

TABLE 1. Study 1: Sample Composition

OECD majority English-speaking country	Leader	Number of COVID-19 communications	Number of tweets about the leader	Number of Tweets 24 hours after leader communications
Australia	Scott Morrison	71	48,551	10,475
Canada	Justin Trudeau	102	86,887	41,343
Ireland	Leo Varadkar	5	8,428	245
New Zealand	Jacinda Ardern	38	53,846	7,851
United Kingdom	Boris Johnson	40	485,809	99,535
	Total Excluding Trump	256	683,521	159,449
United States	Donald Trump	76	10,612,116	3,322,350
	Total	332	11,295,637	3,481,799

Notes. Data collection period: March 15 to October 31, 2020.

TABLE 2. Study 1: Means, Standard Deviations, and Correlations

	Variable	Mean	SD	1	2	3	4	5	6	7
1	Positive stakeholder response	2.62	3.19	-						
2	Negative stakeholder response	2.80	3.60	-0.03*	-					
3	Positive leader language	3.23	0.91	0.08*	0.06*	-				
4	Negative leader language	1.27	0.67	-0.10*	0.05*	-0.52*	-			
5	Time (country pandemic month)	3.95	2.21	-0.06*	0.07*	0.01	0.07*	-		
6	Retweeted	0.78	0.41	0.00	0.02*	0.01*	-0.00	-0.03*	-	
7	Quoted	0.25	0.43	0.10*	0.01*	0.11*	-0.08*	0.02*	-0.17*	-
8	Reply others	0.05	0.23	-0.02*	-0.02*	-0.02*	0.01*	0.05*	-0.45*	-0.01*
9	Quoted leader	0.01	0.11	0.13*	0.00	0.06*	-0.01*	-0.01*	-0.09*	0.19*
10	Replied leader	0.01	0.12	-0.00	-0.01*	-0.00	-0.01	0.01*	-0.22*	0.02*
11	Stakeholder frequency	1.81	1.18	-0.06*	0.07*	0.02*	0.05*	0.15*	-0.01*	-0.01*
12	Retweet frequency	3.48	2.25	0.07*	0.05*	-0.04*	0.03*	0.03*	0.56*	-0.23*
13	Leader communication response count	7.58	1.33	0.05*	0.10*	-0.11*	0.19*	0.10*	0.08*	-0.03*
14	COVID-19 restriction	69.59	8.61	-0.02*	0.05*	0.01*	0.15*	-0.36*	-0.01*	0.02*
15	COVID-19 deaths	0.93	0.61	-0.03*	0.01*	-0.09*	0.36*	-0.28*	0.02*	0.02*
16	COVID-19 reproduction rate	1.05	0.44	-0.05*	-0.03*	0.02*	0.04*	-0.09*	-0.05*	0.01*
17	Calendar date	22084.33	64.38	-0.06*	0.05*	0.01*	0.04*	0.99**	-0.03*	0.04*

	Variable	8	9	10	11	12	13	14	15	16
8	Reply others	-								
9	Quoted leader	-0.01*	-							
10	Replied leader	0.49*	-0.00	-						
11	Stakeholder frequency	0.10*	-0.04*	-0.02*	-					
12	Retweet frequency	-0.28*	-0.07*	-0.14*	-0.07*	-				
13	Leader comm. event frequency	-0.04*	-0.02*	-0.01*	0.09*	0.34*	-			
14	COVID-19 restriction	-0.01*	0.03*	-0.00	0.01*	-0.06*	0.05*	-		
15	COVID-19 deaths	-0.02*	0.04*	-0.01*	0.01*	0.07*	0.34*	0.38*	-	
16	COVID-19 reproduction rate	0.03*	0.06*	0.01*	-0.03*	-0.23*	-0.27*	0.10*	-0.02*	-
17	Calendar date	0.05*	-0.01*	0.01*	0.13*	0.03*	0.06*	-0.39*	-0.30*	-0.08*

Notes. N = 148,332. *significant at $p < .05$. “Calendar date” is formatted as integers where January 1, 1960 receives the value of 1. Our first observation (March 15, 2020) receives the value 21989. The number of observations differs from the total number of tweets 24 hours after leader communications reported in Table 1 (159,449) due to missing values in countries’ daily reproduction rates.

TABLE 3. Study 1: Stakeholder Response as a Function of Leader Communication Valence and Time

	Positive stakeholder response			Negative stakeholder response		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Positive leader language		0.24*** (0.01)	0.43*** (0.03)		0.48*** (0.02)	0.15*** (0.03)
Negative leader language		-0.16*** (0.02)	-0.40*** (0.04)		0.43*** (0.02)	0.56*** (0.04)
Time (pandemic month)		0.04 (0.03)	0.15*** (0.04)		1.18*** (0.04)	0.94*** (0.04)
Positive leader language X Time (pandemic month)			-0.04*** (0.01)			0.08*** (0.01)
Negative leader language X Time (pandemic month)			0.06*** (0.01)			-0.03** (0.01)
Retweeted	-0.20*** (0.03)	-0.21*** (0.03)	-0.21*** (0.03)	-0.02 (0.04)	-0.07+ (0.04)	-0.06 (0.04)
Quoted	0.71*** (0.02)	0.66*** (0.02)	0.67*** (0.02)	0.20*** (0.03)	0.23*** (0.03)	0.21*** (0.03)
Reply others	0.14+ (0.08)	0.15+ (0.08)	0.14+ (0.08)	-0.40** (0.15)	-0.36* (0.14)	-0.35** (0.13)
Quoted leader	3.39*** (0.17)	3.30*** (0.17)	3.27*** (0.17)	-0.07 (0.10)	-0.14 (0.10)	-0.09 (0.10)
Reply leader	0.01 (0.11)	0.00 (0.11)	0.01 (0.11)	0.25 (0.16)	0.23 (0.16)	0.22 (0.15)
Stakeholder frequency	-0.10*** (0.01)	-0.11*** (0.01)	-0.11*** (0.01)	0.13*** (0.03)	0.12*** (0.03)	0.12*** (0.02)
Retweet frequency	0.13*** (0.01)	0.13*** (0.01)	0.13*** (0.01)	0.05*** (0.01)	0.07*** (0.01)	0.06*** (0.01)
Leader communication response count	0.27*** (0.01)	0.22*** (0.01)	0.22*** (0.01)	-0.24*** (0.02)	-0.13*** (0.02)	-0.13*** (0.02)
COVID-19 restriction	-0.01*** (0.00)	-0.01*** (0.00)	-0.01*** (0.00)	0.02*** (0.00)	0.02*** (0.00)	0.02*** (0.00)
COVID-19 deaths	-0.34*** (0.02)	-0.20*** (0.02)	-0.19*** (0.02)	-0.36*** (0.03)	-0.28*** (0.02)	-0.27*** (0.03)
COVID-19 reproduction rate	-0.06* (0.02)	-0.04 (0.03)	-0.06* (0.03)	-0.47*** (0.03)	-0.16*** (0.03)	-0.15*** (0.03)
Calendar date	-0.00*** (0.00)	-0.01*** (0.00)	-0.01*** (0.00)	0.00*** (0.00)	-0.04*** (0.00)	-0.04*** (0.00)
Constant	111.29*** (3.50)	133.69*** (23.43)	163.03*** (23.62)	-20.75*** (4.72)	847.33*** (27.51)	826.99*** (27.22)
R-squared	0.05	0.05	0.06	0.03	0.05	0.05

Notes. N=148,332. Unstandardized regression coefficients are presented. All models include fixed effects for leaders and cluster standard errors. Robust standard errors in parentheses. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$

FIGURE 1. Theoretical Model

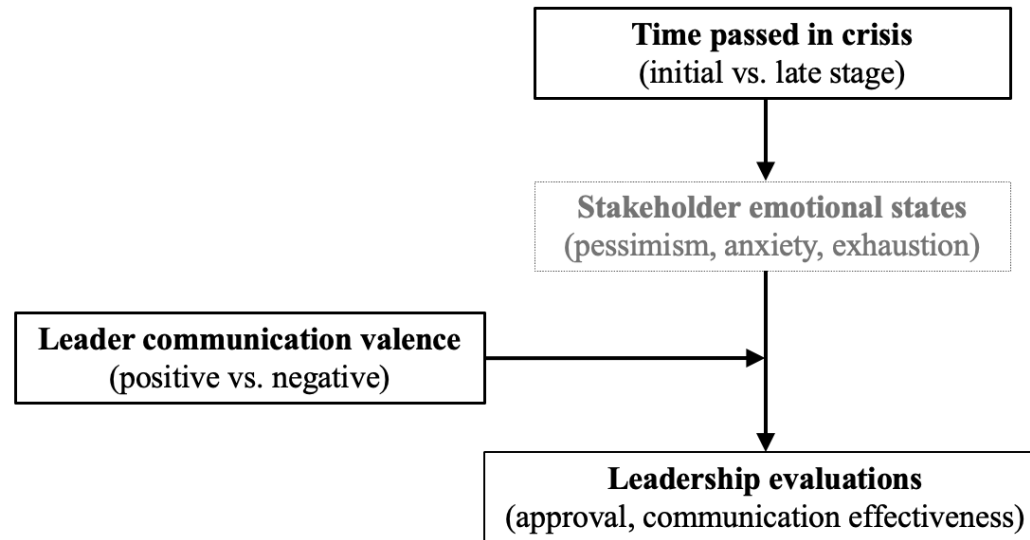
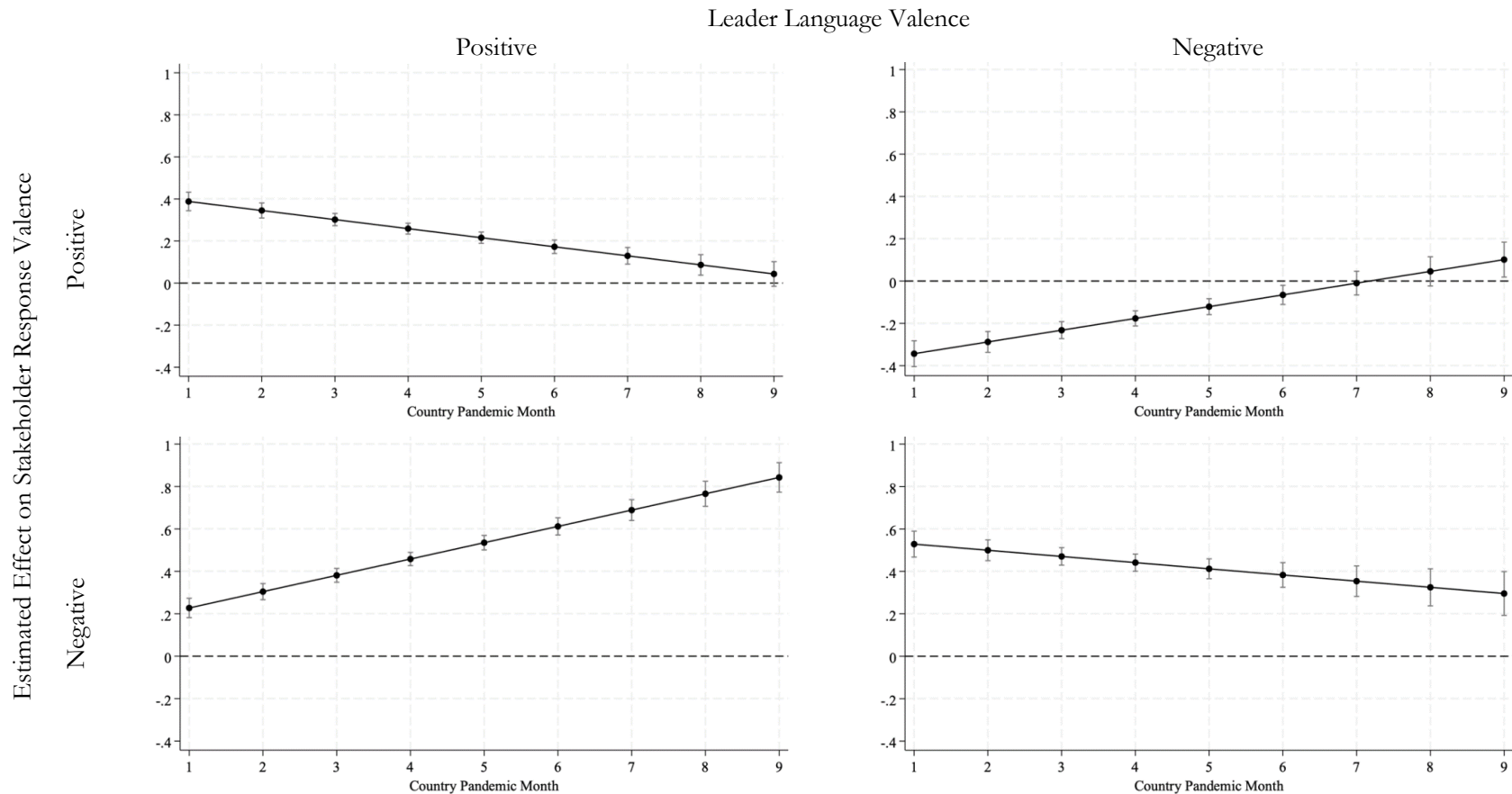


FIGURE 2. Study 1: Average Marginal Effect of Leader Communication Valence on Stakeholder Response Valence Over Time

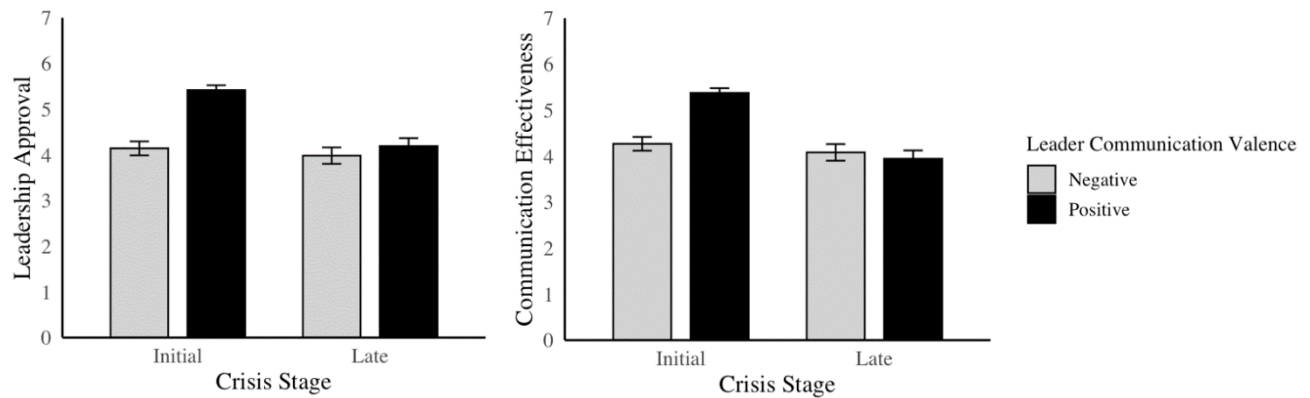


Notes. Figures depict stakeholder responses to the valence of leaders' language in the first eight months of the pandemic. The two left panels show decreasingly positive and increasingly negative responses to leaders' positive language, and the two right panels show increasingly positive and decreasingly negative responses to leaders' negative language over the same period. They illustrate the importance of time as a moderator of stakeholder responses to leaders in prolonged crises. By the ninth month of the pandemic, positive leader language ceased to elicit any stakeholder positive response and was associated with increasingly negative reactions, while the valence of stakeholders' responses became indifferent to negative leader language.

FIGURE 3. Study 2: Effect of Leader Communication Valence and Crisis Stage on Stakeholder Evaluations

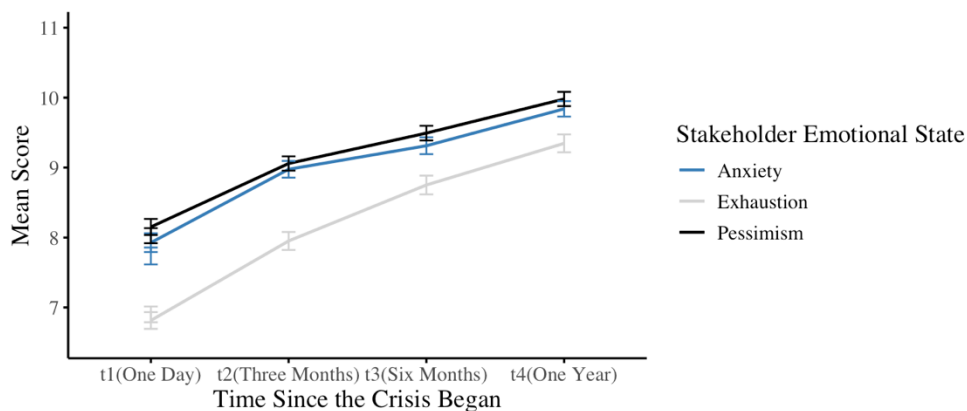
Panel A. DV = Leadership Approval

Panel B. DV = Communication Effectiveness



Notes. N = 429. Error bars are standard errors.

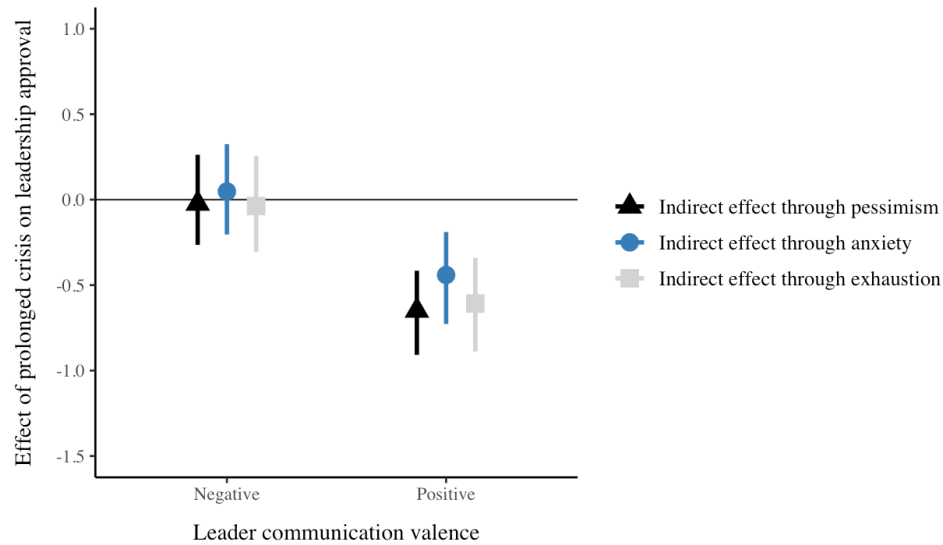
FIGURE 4. Study 2: Effect of Time on Stakeholders' Emotional Responses to Crisis News



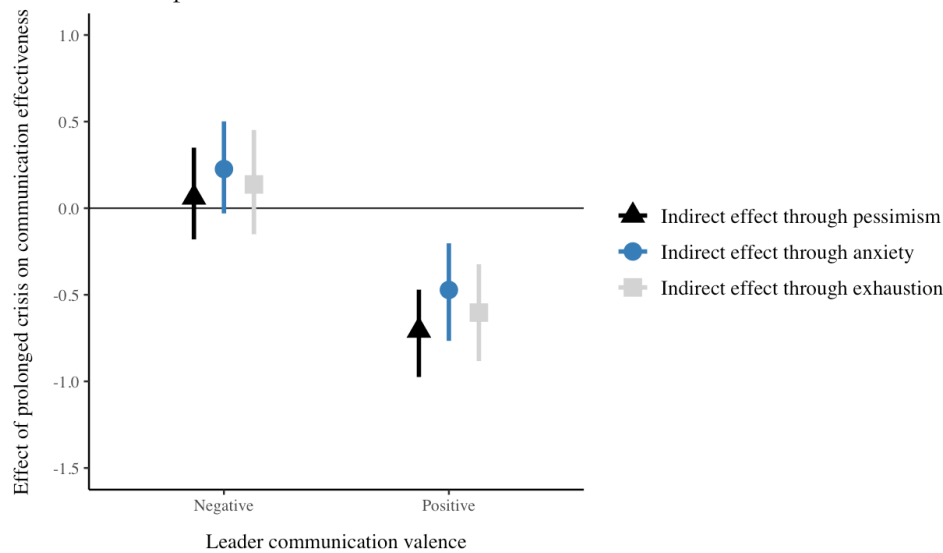
Notes. N = 429. Participants in the initial stage condition reported their emotional states once at t1; participants in the late-stage condition reported their emotional states four times. Their emotional states at t1 (pessimism, anxiety, exhaustion) do not differ significantly between initial and late-stage conditions. Error bars are standard errors. Emotional states at t1 are indicated in the same color as the corresponding t1–t4 trajectory for each emotion.

FIGURE 5. Study 2: Difference in Conditional Indirect Effect Estimates by Crisis Stage, as a Function of Leader Language Valence

Panel A. Estimated Differences in Initial and Late-Stage Leadership Approval via Stakeholder Emotional Responses to the Crisis



Panel B. Estimated Differences in Initial and Late-Stage Communication Effectiveness via Stakeholder Emotional Responses to the Crisis



Notes. N = 429. Error bars are 95% CIs. Figures depict the difference in predicted leader evaluations as a function of leader language valence at late (vs. initial) stages in the crisis, via stakeholders' emotional responses to the stage of the crisis they are in. There is no difference in leader evaluations when leaders use negative language at late (vs. initial) stages, but more negative evaluations when leaders use positive language at late (vs. initial) stages of the crisis.