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Leader sensemaking style in response to crisis: Consequences and insights from the COVID-19 pandemic

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ABSTRACT

The international scope of the 2020 COVID-19 crisis compelled a response from world leaders across the globe. However, the nature of these responses was far from universal. These circumstances present a unique opportunity to study how leader style influences, and is influenced by, a common crisis. To explore these relationships, the present effort used a content analysis of weekly COVID-19 statements from world leaders spanning the first 19 weeks of the crisis. Results suggest that leaders shifted toward increasingly pragmatic sensemaking approaches as COVID-19 infections increased and that sustained use of pragmatic leadership styles was associated with fewer infections in the long term. In contrast, sustained use of the charismatic sensemaking style was associated with higher observed infection rates.

1. Introduction

When compared to other viral outbreaks in recent history (e.g., Ebola; Middle East Respiratory Syndrome), the universality of the COVID-19 pandemic presented a unique global leadership problem. As of early October 2020, nearly all populated countries on Earth had confirmed COVID-19 cases (The New York Times, 2020). Moreover, the characteristics of the virus itself are immutable and endure regardless of socio-economic, demographic, or political differences between locales. The breadth and consistency of the virus threat made the importance of differences among world leaders in similar positions of responsibility and influence more readily apparent.

In a recent case study of approaches to managing COVID-19 by three world leaders, Crayne and Medeiros (2020) noted that differences in leader sensemaking style may explain meaningful variability in the public health outcomes of the countries they led. However, these assertions are yet to be tested empirically and questions remain regarding the role of leadership style in the spread and impact of the pandemic. Moreover, it is unclear from both recent research and the broader literature on leader sensemaking styles whether leaders engaged with an ongoing and persistent crisis can recognize flaws in their sensemaking approach and adjust to more appropriate methods over time. Akin to a situational leadership theory perspective (Hersey & Blanchard, 1977), success in managing COVID-19 may be predicated not only on how leaders engaged in sensemaking at the pandemic’s outset, but on the adoption of new sensemaking strategies when circumstances require it.

1.1. Sensemaking style & COVID-19

The approach used to interpret the environment, particularly a changing environment, and motivate future action is known as sensemaking (Maitlis & Christianson, 2014; Weick et al., 2005). Leaders are often the organizational actors most responsible for sensemaking due to their role in facilitating responses to environmental complexity or change (Maitlis & Christianson, 2014). As such, scholars have recognized sensemaking as an essential leadership competency (e.g., Shamir, 2007) and suggested that effective leadership may be operationally defined by the capacity to sensemake successfully (e.g., Pye, 2005). Research has further suggested that the relationship between leadership and sensemaking may be increasingly important in dangerous contexts, such as the emergence of a global pandemic. For example, a study of New York City’s response to the West Nile Virus outbreak by Weick et al. (2005) suggested that ineffective sensemaking on the part of health department and governmental leaders was a partial cause of the virus’ spread and overall lethality. Despite the established connection between the two processes, most prominent leadership theories do not directly incorporate sensemaking into their model. Mumford’s (2006) Charismatic, Ideological, and Pragmatic (CIP) model of leadership, however,

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bridges this gap and draws connections between leader sensemaking and leadership process outcomes.

The CIP model proposes that leaders develop approaches to sensemaking based on a combination of individual differences and personal experiences (Mumford, 2006). These crucial experiences form the basis of broad mental models that further inform how an individual engages with problem interpretation in the future (Hunter & Lovelace, 2020). A leader's CIP style is thus traditionally thought to be trait-like in expression, in that an individual generates a stable approach to problem interpretation, which manifests consistently across time and situations (Ligon et al., 2008; Mumford, 2006). Although subject to nuance, the theory originally argued that leaders typically adopt one of three core sensemaking styles that subsequently underpin their decision making and approach to leader-follower relationships.

Broadly, a charismatic sensemaking style is defined by a future-oriented and positive approach to problem-solving, in which issues are framed through a set of diverse goals with ambitious and transformative objectives. Examples include Madeline Albright and Martin Luther King Jr. (Griffith et al., 2015; Ligon et al., 2008). Ideological sensemaking styles conversely adopt a past-oriented position that frames problems by appealing to closely held values and traditions, often relying on negative emotional tone and “us-versus-them” messaging. For example, Steve Jobs and Margaret Thatcher most closely aligned with an ideological style (Griffith et al., 2015; Ligon et al., 2008). Finally, leaders employing a pragmatic sensemaking style focus their attention on the most immediate needs of the moment, avoiding hyperbole and actively enlisting the help of an elite cadre of experts and advisors to generate evidence-based solutions (Lovelace et al., 2019). Pragmatic examples include Meg Whitman and Warren Buffett (Allen et al., 2020; Ligon et al., 2008).

Research on the CIP model has established that differences in leader sensemaking styles manifest across myriad contexts (Mumford et al., 2006) and reliably predict differential leader behaviors and leadership outcomes (Hunter & Lovelace, 2020).

In his original articulation of the CIP theory, Mumford et al. (2006) argued that leaders adopt and maintain a single sensemaking style as an outcome of mental models formed through prior experience. However, emerging theoretical arguments challenge this notion and suggest that sensemaking styles may be adjusted to meet the needs of the situation or social pressures (Griffith & Medeiros, 2020; Hunter & Lovelace, 2020). This conceptualization aligns with the transition in the broader leadership literature away from a trait-based perspective and toward the integration of context and processes. The rise in system-focused theories such as contextual and complexity leadership theories, as well social process theories (Dinh et al., 2014) emphasize the importance of the situation and the need for leaders to adapt to meet the needs of a particular context.

In a recent review of the CIP literature, Lovelace et al. (2019) suggested that the influence of situational context on sensemaking style efficacy has been underdeveloped. Moreover, the authors contend that positioning leader sensemaking styles as static belies the variability in experience and opportunity for mental model development among prospective leaders. It is more likely that many leaders form a sensemaking approach that falls at the intersection of CIP categories, and that aspects of a particular approach may be accessed when called for by emergent circumstances (Lovelace et al., 2019). This assertion is supported by some empirical work challenging Mumford’s (2006) original conception (e.g., Bedell-Avers et al., 2008; Hunter et al., 2009; Mumford et al., 2006), finding that many individuals appear to possess a leader-ship profile which incorporates multiple aspects of CIP styles. When considered with the situational and process-focused theories of leadership, leaders may adjust their dominant sensemaking style depending on the requirements of the situation at hand and their ability to interpret such a need. However, there have been no direct tests to date as to whether or when a leader may shift their sensemaking strategy from one style to another during their response to an emergent problem.

The multi-faceted and dynamic nature of the COVID-19 crisis suggests that a variation in leadership styles may be particularly useful. As the crisis has progressed, so has the complexity of the crisis and its outcomes. For instance, Van Bavel et al. (2020) argued that crisis leaders would need to “manage threats, navigate different social and cultural context, improve science communication, align individual and collective interests, employ effective leadership and provide social and emotional support” (p. 461) – a dynamic set of tasks that certainly requires an equally dynamic approach to leadership. As such, the COVID-19 crisis evolves and the characteristics of the situation shift, we expect that CIP leaders may similarly adjust their style to match the needs of the crisis.

**Hypothesis 1.** Leaders will change their sensemaking style presentation in response to changes in the severity of the crisis.

Although the stylistic differences between these approaches are substantial, each can be highly effective for generating and maintaining influence. The CIP model does not contend that there is a singular or “best” pathway to effective leadership (Hunter & Lovelace, 2020; Lovelace et al., 2019), but that the style that is adopted will result in predictable and meaningfully different outcomes when compared to alternatives. For example, Lovelace and Hunter (2013) found that followers of charismatic leaders produce more creative work than those of ideological or pragmatic leaders; Bedell-Avers et al. (2008) found that pragmatic leaders were consistently able to make sense of high-complexity problems while charismatic and ideological leaders struggled under certain situational constraints. The issue of importance concerning sensemaking style is whether the style that is adopted by a leader meets the needs of followers and is most appropriate for addressing the challenge that has been presented (Mumford, 2006). This assertion is supported by the broader organizational sensemaking literature, where research has demonstrated that mismanaged or inappropriate sensemaking strategies can exacerbate crisis conditions and lead to worse outcomes (see Weick, 2005). For COVID-19, such mismanagement would likely manifest as a disproportionate increase in infections and positive cases relative to the national population.

Using a case study approach, Crayne and Medeiros (2020) explored the implications of CIP sensemaking differences with regard to COVID-19 outcomes. Specifically, they argued that charismatic leaders may pursue too many goals and rely too heavily on generating positive emotions toward a desired future state, which may motivate followers in the short-term but would likely prove ineffective in generating a cohesive and long-lasting response. Further, ideological leaders may face challenges in motivating those outside of their immediate base who do not adhere to their rigid belief system. Ideological leaders would also be unlikely to waver from their belief system, which may prove to be detrimental given the complexity and dynamic nature of the crisis. In contrast, the tendency for pragmatic leaders to set realistic expectations and to rely on rational and present-focused problem-solving approaches (Mumford, 2006) may be especially beneficial for the complex, dynamic, and multi-faceted nature of the COVID-19 crisis. Although this pattern was demonstrated qualitatively in Crayne and Medeiros (2020) case analysis of Angela Merkel, Justin Trudeau, and Jair Bolsonaro, the empirical question of which sensemaking style is most effective for managing the COVID-19 crisis remains unanswered. As such, we test the following hypotheses based on their theorization:

**Hypothesis 2a.** Presentation of charismatic sensemaking styles by world leaders will be positively associated with COVID-19 infection rates.

**Hypothesis 2b.** Presentation of ideological sensemaking styles by world leaders will be positively associated with COVID-19 infection rates.

**Hypothesis 2c.** Presentation of pragmatic sensemaking styles by world leaders will be negatively associated with COVID-19 infection rates.
2. Method

2.1. Sample

The present sample included data from two populations of leaders. First, leaders of the 19 countries represented in the Group of Twenty (G20). G20 leaders were selected to ensure the accessibility of both leader speeches and COVID-19 statistics. Furthermore, given the underrepresentation of women in the G20, intentional inclusion of female leaders was required to enable generalizations of our study’s results to more diverse contexts. As such, the complete population of female Heads of State for whom leader statements were available were included in the initial data collection. In an extension of the preliminary and conceptual work of Crayne and Medeiros (2020), which included only three world leaders, the final sample consisted of codable statements from 35 leaders, 19 from the G20 and 16 additional women heads of state.

2.2. Leader statements on COVID-19

Weekly leader statements were collected between January 1st, 2020 and June 1st, 2020 via online search platforms. This date range was specified to ensure that all countries included in this study had experienced their first case, their first initial peak, and a leveling off period of the number of cases. Additionally, this date range also allowed for a sufficiently large sample of leader statements that provide proper statistical power for analyses. Searches were conducted using standardized search terms, including the leader’s name and COVID-19. To be retained for coding, leader statements had to meet several criteria: they had to (a) be given in, or be translated to, English, (b) contain direct quotes from the leader about COVID-19, and (c) be in written or audible format.

Due to the complex nature of some of the interactions following leader statements (e.g., press conferences with questions), only prepared leader statements were analyzed. To ensure standardization, each leader was searched within a specific date range, and the speech issued earliest in the week was selected. The final sample included 35 leaders with a combined total of 285 statements and an average of eight statements per leader. These statements were content coded for CIP leadership styles (Appendix E).

2.3. COVID-19 infection rates

Weekly COVID-19 infection rates for each country were collected via the COVID-19 tracker database managed by the Johns Hopkins Coronavirus Resource Center. For all between-person analyses, COVID-19 infection rates were operationalized as the total COVID-19 infections per million residents reported in the leader’s country as of July 8th, 2020. For the within-person analyses, COVID-19 infection rates were operationalized as the total number of COVID-19 infections per million residents within the leader’s country at the time of the leader’s statement. Furthermore, to examine the short-term impact of world leader statements on COVID-19 outcomes, we created a lagged variable that represented the change in COVID-19 infection rates per million residents within the country two weeks following the leader’s statement relative to the previous week (i.e., $IR_{t} - IR_{t-1}$ where $IR = $ Total infection rate). The two-week lag between the leader statement and the specification of observed outcomes was set based on Center for Disease Control (CDC) estimates of the incubation period for COVID-19 (CDC, 2020).

Critics of comparisons between countries concerning the handling of COVID-19 and subsequent outcomes have claimed that socio-economic and developmental differences between countries, as well as leader tenure and are likely to explain much of this variability (e.g., World Economic Forum, 2020). Despite evidence to the contrary (e.g., Pachetti et al., 2020), we have accounted for this possibility by controlling for leader tenure, Gross Domestic Product (GDP), Human Capital Index (HCI), and the Corruption Perception Index (CPI).

3. Results

3.1. Leader sensemaking style and response to COVID-19 crisis

We used hierarchical linear modeling to examine the question of whether leaders altered their style in response to changes in the severity of the COVID-19 crisis (Hypothesis 1). Our results demonstrated that, on average, world leaders tended to shift toward pragmatic sensemaking styles as COVID-19 infection counts increased ($b = 0.00023, p < .01, d = 0.78$, Table 3) such that a 1 standard deviation increase in infection rates (~1210 new infections per million residents) corresponded with about a 0.75 standard deviation increase in within-leader use of pragmatic sensemaking styles. In other words, on average, leaders became more pragmatic following a rise in infections. In contrast, neither the use of charismatic nor ideological sensemaking styles were associated with changes in the infection counts ($p > .05$).

At the within-leader level, our results suggest that shifts in sensemaking style did not significantly influence short-term changes in COVID-19 infection rates two weeks later ($p > .05$; Table 4). However, the between-person results suggest that sustained use of sensemaking style had a pronounced, long-term impact on cumulative COVID-19 infection rates as the crisis progressed. Specifically, sustained use of charismatic sensemaking styles by world leaders during the crisis was associated with higher overall COVID-19 infection rates as of July 8th, 2020 ($b = 835.77, p = .047, d = 0.35$), whereas more frequent use of pragmatic sensemaking style was associated with lower overall infection rates ($b = -2124.11, p < .01, d = -0.58$, Table 5). These findings were consistent with the predictions of Hypotheses 2aa and 2c, respectively, regarding the impact of leadership sensemaking style on COVID-19 outcomes. Hypothesis 2bb, on the other hand, was not supported. Use of ideological sensemaking styles by world leaders was not associated with variance in long-term COVID-19 infection rates ($b = 233.78, p = .75, d = 0.05$). Collectively, leader sensemaking style was found to account for 29% of the unique total variance in long-term COVID-19 infection rates with the full model including the socioeconomic controls explaining 55% of the total variance.

Descriptive statistics and bivariate correlations at the between- and within-leader levels, and regression tables are reported in the supplemental materials. The pattern of effects shown above remained the same when model controls (i.e., Leader tenure, GDP, HCI, and CPI) were removed from analyses.

Appendix B provide a comparison of the impact of CIP styles and transformational and transactional leadership.

4. Discussion

In line with theorizing by Crayne and Medeiros (2020), our results suggest that leader sensemaking style contributes to differences in long-term, cumulative COVID-19 cases per capita observed across various countries. Our results also suggest that many leaders recognized the value of pragmatic responses to crisis, evidenced by a general shift toward pragmatic sensemaking styles as infection rates increased, in support of our first hypothesis. This is the first empirical test, to our knowledge, demonstrating flexibility in CIP sensemaking styles.

Hypotheses 2. a-c contended that specific approaches to leader sensemaking would be differentially effective in helping to control national COVID-19 infection rates. Notably, leaders who adopted a sustained approach to pragmatic sensemaking, either at the onset of COVID-19 or later as case numbers increased, fared better regarding the number of COVID-19 cases in the long term than leaders who favored other approaches. In contrast, adoption of charismatic sensemaking styles resulted in observed increases in cumulative COVID-19 case rates, in keeping with predictions. Although the present effort only examined cases, given the exponential nature of COVID-19 spread, the reduction of case numbers early on is likely to have positive
downstream effects for containing the virus.

Given the nature of the COVID-19 crisis, a pragmatic sensemaking style, which prioritizes malleability and problem solving, appears to best fit the complex and multi-faceted circumstances (Lovelace et al., 2019). Charismatic sensemaking, by comparison, emphasizes positivity and diversity of one's message and goals rather than the relative fit of those to the specific circumstance (Mumford, 2006). A charismatic leader's sanguine statements and positivity in light of crisis may create a false sense of security for followers that “everything will be ok”, resulting in lower follower perceptions of risk (Au et al., 2003). Further, the positive mindset embodied by charismatic sensemaking is associated with being less critical while evaluating potential solutions (Cerulo, 2006). Overlooking potential obstacles can substantially reduce the effectiveness of leader planning, a critical leader skill during complex decision making (Cerulo, 2006; Mumford et al., 2007).

Ideological sensemaking, which often results in selecting and maintaining one consistent course of action (Lovelace et al., 2019), was not associated with case rates. This result was surprising, as previous research on CIP suggests that ideologues and their followers are the most likely to deny evidence and rely on entrenched, values-based problem solving rather than evidence-based practices (Lovelace et al., 2019). Unlike their counterparts, however, ideologues may be more likely to fall victim to something akin to sunk costs because of their rigid, singular focus on one “transcendental” goal (Mumford, 2006) that may (not) address the core cause of the crisis. It is worth noting that this outcome does not appear to be dependent on the political affiliation of the leader. For example, both Mexican President Andrés Manuel López Obrador and United States President Donald Trump opted to focus on economic consequences while downplaying the severity of the public health crisis throughout global outbreaks despite increasingly catastrophic case numbers in their countries.

4.1. Theoretical and practical implications

Our results both advance and challenge our understanding of leadership during crisis, particularly in the domain of leader cognition. Most notably, by employing a multi-wave study design, we found that some sensemaking styles were more effective than others in dealing with the COVID-19 outbreak. Importantly, our results suggest that leaders can and do adapt their sensemaking style when needed, aligning more with situational approaches to leadership that emphasize the role of followers and environmental factors. In totality, these results also highlight the need for additional consideration of (1) the direction of causality between leader sensemaking style and situational factors and (2) moderating or mediating factors in leadership sensemaking research, such as the type, duration, and complexity of a crisis event (Lovelace et al., 2019).

Our findings also highlight the predictive power of leader sensemaking – as opposed to neocharismatic approaches to leadership – in understanding how leaders process and respond to crisis events (Appendix B). Although transformational and transactional leadership approaches have received extensive attention and praise in the leadership field, our results suggest that neocharismatic leadership styles do not meaningfully differentiate between broader outcomes in this case. Instead, differences in leader sensemaking significantly predicted case rates. In short, how leaders process, categorize, and interpret information can impact their own behavior (e.g., mask usage) as well as the policy positions they advance (e.g., funding) or influence (e.g., localized policy decisions; Holman et al., in press), all of which impact follower behavior.

Finally, this study contributes to a broader discussion regarding the “real” impact of leaders and leadership. Although an immense body of empirical and theoretical literature exists to support the importance of leaders and leadership (cf. Dinh et al., 2014), some have suggested that the true impact of leaders on society is limited (e.g., Pfeffer, 1977). In contrast to this assertion, we have demonstrated that public health outcomes can be significantly altered as a result of differences in leader sensemaking, and that such effects are not isolated to a specific population or context. Further, we are the first to demonstrate how these outcomes can change as a response to changes from leaders themselves, suggesting that leaders who are uninformed or overly obstinate in their approach to problem solving may pose an even more significant risk to those that follow them when faced with crisis conditions.

4.2. Limitations and future research directions

Although our results provide valuable insights, the following limitations should also be considered. First, our evaluation of leader COVID-19 communication was restricted to messages that were provided in or translated to English. Although there is the potential that this choice to bias our sample toward Westernized countries, our final sample was not restricted to Westernized countries and included a variety of countries from across the globe. Additionally, small translational differences may have altered the meaning of some leader statements. Second, these statements are attributed to the leader, but may have been influenced by others in the leader’s environment such as speech writers. Although these individuals may have influence over the speech content, they ultimately represent the leader. Third, despite being comprised of the entire population of such individuals, the population of women heads of state is small and potentially limits generalizability. Fourth, leader speeches were coded during the initial onset of the pandemic and different results may be observed as the pandemic persists. Moreover, we were not able to answer the question of exactly when leaders adjust their style. As such, although this study is both multi-wave and includes the peak and decline of COVID-19 in most countries to date, it does not capture the entire event trajectory.

These limitations also provide opportunities for research. Where this study focused on leader responses to COVID-19 as it emerged, future scholars could extend this line of inquiry into subsequent “waves” of the virus. Additionally, given the trans-national and cross-cultural nature of the pandemic, future scholars could account for the influence of cultural differences in how leaders approached the crisis and how followers responded. Although such questions were beyond the scope of the present effort, there remains significant opportunity for future scholars to advance our understanding of both leadership and COVID-19.

CRediT authorship contribution statement

Kelsey Medeiros: Conceptualization, Methodology, Writing. Matthew Crayne: Conceptualization, Methodology, Writing. Jennifer Griffith: Conceptualization, Methodology, Writing. Jay Hardy: Methodology, Data Analysis, Writing. Adam Damadzic: Project Administration, Writing.

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Appendix A. Supplementary data

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