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The Dynamic Negotiated Exchange Model of Heroism and Heroic Leadership: Lessons From the COVID-19 Pandemic

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Introduction

Like four million other U.S. nurses, Cassandra Alexander was ill-prepared for the COVID-19 pandemic when legions of infected people slammed her San Francisco Bay area hospital in March 2020. The shortage of personal protective equipment (PPE) spurred the Centers for Disease Control and Prevention to recommend that health care workers craft inferior homemade masks from materials such as bandanas and scarves (Hashimoto 2020). As her hospital became overrun with patients, Alexander was so emotionally overwhelmed that she became suicidal, was diagnosed with PTSD, and resigned from the hospital. "This job is fucking hard, and most of us do it without complaint," she recalled, "but it was already baseline stressful, pre-covid, and we were all already burnt" (Alexander 2021, 9). Most telling was Alexander's response to nurses being labeled "heroes" by the public in various media platforms. To her, the term "hero" rang hollow and cruel, prompting her to describe the pandemic as the time when "America pretended healthcare workers were heroes and then made us feel disposable" (5).

In this article, we examine the use, and possible misuse, of the hero label in describing frontline workers who risk their lives to help others during times of major societal crisis. We frame the phenomenon of identifying heroes during crisis as a commodity in an exchange relationship between heroic leaders and beneficiaries of heroic leadership. Our Dynamic Negotiated Exchange (DNE) model of heroism and heroic leadership conceptualizes the exchange relationship as a dynamic process that evolves over time as a result of social processes that give rise to formal and informal negotiations between both parties in the exchange. The terms of the negotiation are first manifest in dialogue on social media platforms and then translate to individual or structural reforms offering more equitable exchange outcomes. We illustrate our DNE model by drawing from notable examples of phenomena consistent with dynamic and negotiated social exchange between heroes and recipients during the COVID-19 pandemic between 2020 and 2022.

This article presents a brief overview of four different literatures that we incorporate into our DNE model of heroic leadership. These four scholarly areas are (a) conceptualizations of heroism and heroic leadership; (b) exchange theories of heroism and heroic leadership; (c) models of negotiation; and (d) theories of responses to emergency situations. The goals of this article are to propose a conceptual framework integrating these four disparate literatures and to apply the framework to notable social events and responses during the COVID-19 pandemic. We outline several testable empirical hypotheses that derive from our framework and suggest potential avenues for further conceptual development and future applications.

This article begins with a brief overview of definitions of heroism and heroic leadership, followed by a review of the exchange model approach toward understanding the relationship between heroic leaders and recipients of heroic action. We then show how this exchange was strained and revealed to be deficient as a result of the COVID-19 crisis.

Definitions of Heroism and Heroic Leadership

"Frontliners" during the COVID-19 pandemic have been parsed into three broad categories: health care personnel, teachers, and grocery workers (Kinsella and Sumner 2022).[1] Within only a few weeks of the onset of the pandemic in early 2020, these frontliners were identified as "heroes" by the media (Cox 2020) and by heroism scientists (Boran et al. 2021). It was easy to understand this hero labeling given that dictionary definitions, lay definitions, and scholarly definitions all converge on several telltale signs of heroism shown by frontliners. Dictionaries describe heroism as "impressive and courageous conduct or behavior" (American Heritage Dictionary 2020), "conduct especially as exhibited in fulfilling a high purpose or attaining a noble end" (Merriam-Webster 2020), "the display of qualities such as courage, bravery, fortitude, unselfishness" (Wiktionary 2020), or "behavior directed toward achieving something very brave or having achieved something great" (Cambridge Dictionary 2020). These heroic attributes most certainly describe the selfless actions of frontliners, especially health care personnel, during the COVID-19 crisis.

Lay definitions of heroism also accurately depict frontliners' behavior. Studies of lay people's perceptions of heroes include the idea that heroes are strong, resilient, caring, selfless, reliable, and inspirational (Allison and Goethals 2011). In a prototype analysis of perceived heroism, Kinsella, Ritchie, and Igou (2015) found that heroes are believed to show bravery, moral integrity, conviction, courage, self-sacrifice, protection, compassion, risk-taking behaviors, and life-saving behaviors. Consistent with these lay perceptions, the scientific community defines heroism as extreme prosocial behavior that is performed voluntarily, involves significant risk, requires sacrifice, and is done without anticipation of person gain (Allison, Goethals, and Kramer 2017; Franco et al. 2018). Heroism differs conceptually from altruism, with altruism defined as purely selfless action, and heroism centered on extreme risk and self-sacrificial prosocial behavior (Franco, Blau, and Zimbardo 2011). Other scholars have emphasized the tendency of heroes to deviate from social norms (Efthimiou and Allison 2017), to exceed expectations (Kafashan et al. 2017), to adhere to moral principles (Comerford 2018; Spyrou 2020), and to undergo vast transformation (Campbell 1949).

The terms *heroism* and *heroic leadership* are often used interchangeably by scholars. Allison and Goethals (2011) have argued that while not all leaders are heroes, all heroes are leaders. Heroes lead either directly or indirectly (Gardner 1995) by serving as role models for exemplary behavior. Heroic leadership is thus the pinnacle of leadership, featuring the heroic qualities of doing exceptional good, incurring significant self-sacrifice, and taking extraordinary risk. Heroism researchers define heroic leadership as doing the right thing at a critical moment, with the right thing reflecting both great morality and great competence (Allison 2023). There are two components of heroic leadership: (1) what heroic leadership looks like in terms of leaders' decisions and actions, and (2) how followers mentally construct heroic leadership. These two elements are not mutually exclusive. A leader's appearance and actions can shape followers' mental constructions, and followers' mental constructions of leadership can steer them toward "seeing" heroic traits in leaders that may not exist.

Heroic leaders make choices that involve extraordinary personal, financial, or political risks. They must be ready, willing, and able to act decisively in situations that require immediate action. Franco (2017) suggests that the label of *heroic leader* should be reserved for larger-than-

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[1] For the sake of brevity, the real-world examples included in this article focus mainly on the experiences of health care workers. Similar quotes and anecdotes consistent with the DNE model can be found for teachers and supermarket personnel.

life figures who take larger-than-life gambles to achieve heroic aims. These aims include advancing socially just principles, transforming societies, leading military into just conflicts, placing organizations at monetary or safety risk to uphold a moral ideal, or helping nations resolve existential crises. Cohen (2010) proposed eight universal laws of heroic leadership. These laws consist of heroic leaders showing integrity, acquiring knowledge, declaring expectations, showing strong commitment, exuding great optimism, caring for their followers, putting duty before themselves, and getting out in front "where the action is."

One controversial issue in defining heroism has centered on whether a heroic act is made heroic by the exceptional quality of the act or by the *recognition* of the act by others (Franco et al. 2011). The proverbial question of whether a tree falling in a remote forest makes a sound is an appropriate analogy. If a heroic behavior goes unnoticed, is it heroic? Or is a heroic designation not only essential for the existence of heroism, but also an essential part of the *reward* of heroism? This latter idea suggests that assigning the status of "hero" to another person may be considered compensation to the hero for their sacrifice. Kafashan et al. (2017, 37) allude to this issue in their evolutionary model of heroism by defining heroes as people "who incur costs (e.g., risk of injury or death; or significant sacrifices such as time, money, or other forms of personal loss)." Kafashan et al. (2017, 37) then make the important observation that "these costs are incurred by the hero without certainty and/or negotiated expectation of direct future rewards." From this perspective, heroism is heroic because there is no expected compensation for the costs of being heroic. Our DNE model of heroic leadership, however, includes the idea of an *implied exchange* between heroes and recipients of heroism, to which we turn next.

Exchange Models of Leadership and Heroism

Sociologists and social psychologists have long noted the importance of equitable exchange in human relationships. Homans (1958) was among the first to formally propose the basic tenets of social exchange theory. First, he stated the basic economic utility perspective that people involved in a social relationship are motivated to maximize their profits and minimize their costs. Second, he argued that people undergo an evaluation of the social, economic, and psychological aspects of their relationship, allowing them to consider alternatives that may offer more benefits compared to their present relationship. Finally, Homans acknowledged that the exchange operates within cultural norms. In other words, social exchanges reflect both societal constructions and our interpretations of those constructions. As such, social exchanges are subject to modification as normative conditions and parties in the relationship change. The temporal malleability of exchange is an issue that Homans did not directly address in his theorizing, and it is central to our DNE model of heroic leadership.

Social exchange theory is similar to equity theory (Adams 1963), which also maintains that people seek fairness in social relationships. Fairness exists when each party in the relationship enjoys the same ratio of outcomes (benefits) to inputs (resources brought to the relationship). Thibaut and Kelley (1959) developed a similar framework to describe people's tendency to evaluate two dimensions of a relationship: the quality of their relationship via the *comparison level*, defined as their expectations for what they should receive from a relationship, and the quality of alternatives to the relationship via the *comparison level for alternatives*, defined as the lowest outcomes that one will accept in light of available alternatives. Both of these constructs—the comparison level and comparison level for alternatives—are key elements of our DNE model, as they suggest the processes of evaluating the fairness of the hero–recipient exchange relationship, as well as mechanisms for changing the nature of that relationship.

In 2005, David Messick proposed an exchange model of the leader–follower relationship derived from these early theories of exchange and equity. According to Messick, "There is a type of equilibrium that is established between leaders and followers that reflects incentives that both have to maintain their relationship" (2005, 82). By equilibrium, Messick referred to the state in which two opposing forces are deemed by both parties to be balanced and fair. Messick's analysis focused on five dimensions through which leaders and followers exchange goods and services. While leaders offer followers a vision for the group, followers offer the leader their focus. Whereas leaders provide security, followers provide loyalty. Leaders also offer followers effectiveness, inclusion, and pride, and in return followers give leaders their commitment, cooperation, and respect. Thus, an important part of the leader–follower exchange includes the leader providing a service to the group, and group members, in turn, providing the leader with appropriate recognition. Although Messick acknowledged that these five dimensions of exchange vary in importance from situation to situation, he did not spell out the impetus for change in the exchange relationship between leaders and followers. Our DNE model proposes a series of processes beginning with an awareness of inequity in the relationship, followed by the initiation of steps taken to obtain more desirable options both within and outside the existing relationship.

Theories of equitable exchange between heroes and recipients of heroism have also been proposed. As noted earlier, Kafashan et al. (2017, 37) allude to heroes absorbing costs for their heroism without expecting any reward. Still, Kafashan et al. acknowledge that while heroes may not *consciously* perform their heroic acts with rewards in mind, there may be *unconscious* motivations driving heroic action. For example, prior to engaging in a heroic act, a potential hero may harbor a less-than-fully conscious awareness that such an act, while costly, may also attract attention, admiration, and status—rewards that could increase the potential hero's reproductive fitness. In short, a quick cost–benefit analysis at an unconscious level may precede a heroic act, or in some cases, the *failure* to perform a heroic act, with the analysis consisting of rough computations of what might constitute an equitable exchange for the potential hero. Such conscious or unconscious computations probably do not occur when heroism requires instant action, as when someone is drowning or choking on food. But conscious or unconscious considerations of equitable exchange may occur when potential heroes decide whether to pursue dangerous careers as a firefighter, health care worker, or law enforcement officer.

From Kafashan et al.'s (2017) evolutionary perspective, potential heroes may anticipate the heroic traits assigned to them after successfully performing a heroic behavior. The traits assigned to heroes, and their value to the hero, are important components of our DNE model. In arguing that holding the hero label signals greater reproductive fitness, Kafashan et al. (2017) suggest that heroes may perform heroic behavior as a means to an end, with the expectation of some kind of compensation or reward from recipients or from one's tribe. Our DNE model is mute on the issue of whether heroes harbor this ulterior motive, but it does assume that recipients and beneficiaries of heroism believe that an important form of compensation for heroic behavior is to confer the hero label to the heroic actor. The benefits of such a designation include recognition, fame, and all the fitness benefits associated with recognition and fame. Other scholars have also proposed the idea of a hero contract in which heroes are expected to "go the extra mile" in keeping with the role, expectations, and definitions of a hero (Sumner and Kinsella 2021).

To summarize, we propose that the act of bestowing the label of hero is a commodity in an exchange relationship between heroes and recipients of heroic action. We agree with Kafashan et al. (2020) that heroes may view the hero designation as a valued "good" in the exchange. Clearly some heroes perform their heroic acts fueled by purely altruistic motives (Franco et al. 2011), but

even so, our DNE framework proposes that recipients may frame their relationship with the hero in terms of an equitable exchange, even if heroes do not. Thus, our framework for understanding heroism involves conceptualizing heroes and recipients of heroism as two parties honoring an implicit contractual arrangement, with recipients more likely than heroes themselves to embrace this unwritten understanding and with recipients also likely to view their use of the label of "hero" as a form of payment to the hero (Allison and Goethals 2019). Thus, consistent with Sumner and Kinsella's (2021) hero contract framework, people form a mental pact with their heroes containing the implicit terms of an equitable exchange between the two parties. Specifically, the act of assigning the "hero" label to someone carries with it an unspoken agreement in which we consent to give heroes our adulation and support, but in return they must maintain an idealized image of human greatness.

This exchange model of heroism and heroic leadership nicely explains the ruthless speed with which people turn against their heroes the moment those heroes show human fallibility. It did not take long at all for heroes such as Tiger Woods, Lance Armstrong, Kevin Spacey, and Andrew Cuomo to fall from grace once news of their moral failings came to light. When heroes fail to honor the terms of the implicit contract requiring them to behave virtuously, people's adulation is often replaced by venomous hatred, with many followers seeking punishment for the breach of contract by subjecting fallen heroes to vicious ostracization or worse. Our analysis of the DNE model of heroic leadership focuses less on the hero breaking the implied hero–recipient contract than recipients failing to honor their terms of the contract. We now turn to that aspect of the strained exchange relationship during the COVID pandemic.

Frontliners and the Hero–Recipient Exchange

The traits assigned to heroes by beneficiaries of heroism are important because, according to our DNE model, the act of bestowing the label of hero is a commodity in an exchange relationship between heroes and recipients of heroic action. Central to the implied relationship is the idea that the hero designation is a valued "good" in the transactional exchange. Heroes and recipients of heroism are two parties honoring an implicit contractual arrangement (Sumner and Kinsella 2021), with recipients more likely than heroes themselves to embrace this unwritten understanding because recipients enjoy the benefits of heroism while incurring far fewer costs compared to heroes (Allison and Goethals 2019). According to our DNE model of heroic leadership, the nature of this contractual exchange relationship is always dynamic, showing mild flux during normal circumstances and becoming subject to extreme change during times of crisis. The very nature of crisis, we argue, is likely to upset the "equilibrium" of exchange that Messick (2005) referred to in his social exchange model of leadership.

One important consequence of this equilibrium change during crises is that when inequities in the distributions of outcomes within the exchange relationship shift to significantly disadvantage one of the parties in the relationship, the terms of the hero contract will become especially salient to the aggrieved party. If heroes were not as mindful or consciously aware of the existence of the hero contract before a crisis, the fallout from the crisis will bring the terms of the contract into the forefront of the hero's consciousness.

During the COVID-19 pandemic, there was ample anecdotal evidence that health care workers began to resent and reject the existing implicit exchange agreement between heroes and recipients. We began this article with the story of a nurse, Cassie Alexander, who both recognized and rejected the commodity value of the hero designation conferred on her. In fact, she pointed out two important realities: (1) the reality of the failure of the hero label to improve the quality of

nurses' lives, and (2) the reality of the hero label justifying the inhumane working conditions of health care workers. "America pretended healthcare workers were heroes and then made us feel disposable," Rose (2020, 1) wrote. Echoing this sentiment, physician Carolyn Rose recalled that during the early stages of the pandemic, health care workers were compelled to "reuse single-use equipment, make do with handmade and untested masks, provide care with little to no protection at all" (2020, 1). Rose also recognized the implicit exchange between heroes and recipients and expressed disdain for it. She even outlined the unacceptable terms of the agreement, mocking its terms. In the agreement, "society owes you a debt of gratitude," Rose (2020, 1) wrote. To pay this debt, "if you succumb to the virus, we will sing your praises to your children. They will know what a hero you were" (Rose 2020, 2). Finally, Rose noted that the implicit hero–recipient contract was ultimately unsustainable: "The 'healthcare hero' meme is just another way to keep doctors and nurses chained to a sinking health care system" (2).

Health care workers also made it clear, in both tweets and blog posts, that the only equitable exchange between themselves and the public is one in which the workers do their jobs and, in turn, are given the proper tools and resources from their employers to do their work safely and effectively (Sumner and Kinsella 2021). According to Yong (2021), during the pandemic health care workers felt like "a commodity" to their hospitals and to the public who downplayed the pandemic despite factual evidence indicating a terrible crisis. "It's like it takes a piece of you every time you walk in [the hospital]," said Ashley Harlow, a Virginia-based nurse practitioner who eventually left her ICU to preserve her mental health (Yong 2021, 1). Health care advocate Amel Murphy wrote, early in the pandemic, that "we were already drowning when we hit the proverbial iceberg that is COVID-19, and now we are doing so more rapidly and very publicly. Do not ask me to risk my life. Provide me the tools and necessary equipment to do my job while keeping me safe" (2020, 1). This final statement sums up Murphy's dissatisfaction with the unfair exchange between heroes and recipients: "I live with a superhero burden" (Murphy 2020, 1), she wrote, with the burden clearly referring to the inadequacy of the hero label in addressing the true needs of frontline workers.

Within weeks of the onset of the COVID-19 crisis, Justin Jones (2020), an outpatient doctor in Utah, asked that the hero label be banned from the public's vocabulary, arguing that while the label seemed like an effective form of encouragement to frontliners, it was ultimately doing more harm than good. In their research on the mental health trauma experienced by health care workers, Kinsella and Sumner wrote that "the labelling of frontliners as heroes has also coincided with other gestures such as *Clap for the Heroes* and the awarding of medals, which over time have become viewed by many frontline workers as disingenuous—particularly where the appreciation does not lead to real action to improve their working conditions, or worse, when the apparent appreciation gestures are coupled with blatant disregard of public health advice making these conditions deteriorate" (2022, 198). Kinsella and Sumner (2022, 198) also accuse hospital leadership and the public of using the term "hero" strategically "in a way that lets them 'off the hook' from their responsibilities." Cox also argued that "the heroism narrative can be damaging, as it stifles meaningful discussion about what the limits of this duty to treat are. It fails to acknowledge the importance of reciprocity, and through its implication that all healthcare workers have to be heroic, it can have negative psychological effects on workers themselves" (2020, 510).

From these considerations, it is clear that an important component of both doing and receiving heroic work is the phenomenon of *agency*, defined as one's capacity to take action to achieve one's aims (Bandura 2000). The implied hero contract endowed both heroes and recipients of heroism with high agency under normal, noncrisis situations. Because the COVID-19 pandemic shocked the health care system in unprecedented ways, this agency was transformed, diminished,

or even eliminated, causing feelings of stress, burnout, anger, and helplessness in heroes (Sumner and Kinsella 2021). Recipients of heroism also experienced reduced agency during the pandemic, accompanied by many of the same emotional deficits experienced by frontline heroes.

Dynamic Negotiated Exchange during Times of Crisis

Over the past three decades, social and organizational psychologists have proposed several different models describing how humans resolve interpersonal and intergroup conflicts through the practice of negotiation (Druckman and Olekalns 2013; Korobkin 2014; Thompson 2013). Negotiation has been defined by Brett as "the process by which people with conflicting interests determine how they are going to allocate resources or work together in the future" (2007, 1). Negotiation is viewed by social scientists as such a pervasive part of our social lives that Max Bazerman and his colleagues once declared that most interpersonal interactions in social relationships, no matter the context nor the scale, reflect some aspect of negotiation processes (Bazerman et al. 2000). Models of negotiation describe the process of conflict resolution, outlining at least five steps—and sometimes more, depending on the model—that both parties entering into a negotiation must take. These five stages of negotiation include preparation, exchange of information, bargaining, reaching conclusions, and executing the terms of the agreement.

Our review of the major models of negotiation has identified a significant omission in most models, namely, a focus on the antecedent conditions that give rise to negotiation. Models of negotiation presume that two parties entering into a negotiation are in conflict, unhappy, and in need of resolution processes that negotiation can provide (Reif and Brodbeck 2021). The DNE model conceptualizes negotiation as embedded in the social relationship at all times and posits that informal conversations regarding the health of a relationship play a pivotal role in shaping the evolving nature of the relationship. In this way our DNE model dovetails with Bazerman et al.'s (2000) conceptualization of negotiation, either implied or otherwise, as deeply rooted in every social relationship. Our model proposes that a central mechanism for triggering a negotiation resides in informal conversations about the quality of the relationship and what can be done to improve that quality. These informal social communications may or may not precede more formal negotiation protocols described by models of negotiation.

As early as 1950, Leon Festinger offered a theory of informal social communications in which he noted the importance of such communications in helping social groups relieve stress and pressure within those groups. These informal communications help groups reach three goals that groups are pressured to accomplish: the goal of achieving uniformity of beliefs, the goal of achieving group aspirations, and the goal of remediating members' negative emotional states. In a fascinating way, Festinger's analysis of these informal communications paved the way for his formulation of two other groundbreaking theories: social comparison theory in 1954, in which people in groups strive to evaluate how they are doing by comparing their lives with those of others, and cognitive dissonance theory in 1957, in which discrepancies in compared outcomes produce both distress and ways to alleviate that distress. These three formulations of Festinger from the 1950s serve as kingpins of our DNE model in their emphasis on the processes that describe how groups and organizations experience stress and growth as a result of negotiated interpersonal communications.

How did these informal social communications manifest during the COVID-19 pandemic? Through social media, of course. When the pandemic struck in March 2020, while much of the world shut down and stayed at home during lockdowns, hospitals and health clinics were slammed with patients suffering from the virus (Pabon 2020). Health care personnel took to Twitter,

Instagram, and Facebook, sharing their disturbing stories of stress and trauma. Emergency room nurses and doctors tweeted their experiences dealing with desperately ill patients without sufficient PPE, ventilators, beds, rooms, and staffing (Gilligan 2021). Alexander (2020) tweeted, "You can't send four million people into a wartime-equivalent situation without there being psychological consequences." Other media posts expressed displeasure with the "hero" label as a form of compensation for the sacrifices made by workers. "Posters calling us 'heroes' have always felt like a deflection from policy changes and true support" (Anderson and Turbin 2021, 1).

These informal social communications, expressing inequity in the hero–recipient relationship, served as important precursors to more formal negotiation processes. Social media posts brought awareness to the public about the inequity of the exchange relationship between heroic leaders of the pandemic and the society they were serving. This awareness is a crucial and necessary catalyst for any type of intervention in a crisis situation. In their multistage model of bystander intervention, Latane and Darley (1970) argued that the first step that any potential helper must take before engaging in a helping response is to notice the situation. This attention is an essential foundation for taking any action. Social media activity centering on the dire conditions in hospitals in March 2020 was intense and relentless, and it brought worldwide attention to the plight of frontliners. These informal social communications led directly to the second stage of helping, as proposed by Latane and Darley, namely, the step of correctly interpreting the situation as an emergency. While conservative news outlets downplayed the severity of the problem for frontliners, more centrist and progressive news agencies made the desperation of frontliners clear to viewers, readers, and listeners (Budak, Muddiman, and Stroud 2021). Most reasonable members of society recognized that a terrible and unprecedented crisis was unfolding in hospitals almost everywhere, especially the hardest hit areas of the country and the world.

The third stage of Latane and Darley's (1970) model centers on taking responsibility for helping. Hospitals and health clinics, along with good Samaritans with access to much-needed medical resources and ways to deliver them, were taking some actions, but often these measures fell woefully short of meeting the needs of patients and medical personnel. Many U.S. hospitals, operating more with a profit motive than with a humanitarian motive, were unable or unwilling to take sufficient responsibility for improving the working conditions of health care personnel. Even when hospital administrators sought to "do the right thing," they were often constrained by lack of resources. For example, rural hospitals or those who serve low-income constituents may have been particularly impacted by resource constraints (Christensen 2021). Other more affluent hospitals were slow to accept responsibility for dangerous workplace conditions, in some cases warning, disciplining, and firing health care workers who posted descriptions of their rapidly deteriorating workplace conditions on social media (Scheiber and Rosenthal, 2020). This vindictive pushback from hospital administrators is consistent with research showing that whistleblowers are often the most severely mistreated heroes in our society (Richardson and McGlynn 2021). In short, the attempt at negotiating a resolution to outrageously unsafe working conditions was rejected by some hospitals who were either in denial about the problem (stage 1 of Latane and Darley's model), incapable of interpreting the situation as a crisis (stage 2), or unwilling to assume responsibility for the ongoing problem (stage 3).

Examining how events during the pandemic mirrored the stages of Latane and Darley's (1970) bystander intervention models brought the efficacy, and, often, the lack of efficacy, of the informal communication-based negotiation process into bold relief. Social media posts initiated informal conversations, attracting designations of the "hero" label from some of the public while eliciting pushback and resistance to acknowledging the extent of the crisis from others. At times

both the health care industry and government agencies were aware of the situation, were correctly interpreting the situation as an emergency, and were taking responsibility—but they were still paralyzed and handcuffed because they had neither the ability nor the resources to take appropriate helpful actions. This is the last step in Latane and Darley's model—the action step. For the average citizen, the only action that could be taken was to assign the hero label to frontliners. Most people were aware of the extent of the horrific conditions facing frontliners, and seemingly the only good or commodity they could offer was to sing the praises of heroic health care workers even if those workers viewed these compliments as an insufficient and sometimes even a dangerous and insulting form of compensation.

Here the DNE model posits that ongoing inequity in the exchange relationship between heroic leaders and recipients must resolve itself in one of two ways: either in changes in the exchange or in the termination of the relationship. These two avenues of resolution were manifest in the health care industry during the COVID-19 pandemic, and they were assigned labels in the form of the *Great Resignation* (Hirsch 2021) and the *Great Upgrade* (Romans 2022). With regard to the Great Resignation, labor statistics showed that 20 percent of nurses and doctors left their jobs during the pandemic due to burnout, low pay, and lack of safe working conditions. Moreover, one-third of remaining nurses considered leaving their positions, including many who contemplated leaving the health care industry entirely (Hirsch 2021). "In the end," wrote Stowell, a Massachusetts physician, "my *hero complex* and my deep fear of making a medical mistake pushed me to quit" (2002, 1; italics added). It is important to note that the hero complex is defined as the mindset that one must be a hero regardless of the costs to oneself. In the minds of recipients and beneficiaries of heroism, having such a mindset may be a necessary qualification for receiving the hero label, and the COVID-19 crisis led many heroes to escape from the burden of such a label.

With regard to the Great Upgrade, nurses and doctors who were deeply unhappy with the status quo made the decision to seek different employment that offered far better working conditions and improved compensation and benefits packages. One example of the Great Upgrade for nurses was found in the concept of "traveling nurses" who work in short-term roles in hospitals, clinics, and various health care facilities around the country and world. As a result of the pandemic, the salary for traveling nurses almost doubled compared to prepandemic levels. Yang and Mason (2022) estimate that as a result of traveling nurse opportunities for their nursing staff, hospitals facing staffing shortages have lost many billions of dollars to offset those shortages. Another form of the Great Upgrade has been called the Great Retention, referring to employers' proactive efforts to retain current employees by upgrading their pay and benefits, sometimes even before employees have asked for such upgrades (Kiner 2021).

Specific Hypotheses Deriving from the DNE Model

Because our DNE model of heroic leadership portrays a system in flux as a result of crisis, we offer in this section a brief summary of the key features of the model along with specific hypotheses that derive from it. Table 1 depicts the temporal ordering of the stages of phenomena that unfold in the DNE model. Stage 1 of our model describes heroism as a commodity in an implied exchange relationship, called the hero contract, between heroic leaders and recipients of heroic leadership. Next, in Stage 2, a crisis event introduces upheaval in the system causing dissatisfaction in the terms of the hero contract, shown in Stage 3. Note that recipients of heroism begin to give more of their main commodity, the hero label, to heroes in Stage 3, but this commodity is insufficient in addressing the growing inequity in the exchange relationship. In Stage 4, we witness social processes that give rise to formal and informal negotiations among all parties

in the exchange, including administrative management in the hero industry. If the crisis is severe enough and long-term in duration, Stages 5 through 7 depict heroes in crisis attempting to survive the broken system and possibly escape from it. Formal and informal communications and negotiations are ongoing during these stages of personal and professional crises for heroic individuals.

	Heroes	Recipients	Management	Status of Model
Stage 1	Implicit acceptance of the hero contract: Provide a service to recipients	Implicit acceptance of the hero contract: Provide the hero label to heroes	Provision of industry average compensation to heroes	Normal Model
Stage 2	Awareness of major upheaval introduced to the system	Awareness of major upheaval introduced to the system	Awareness of major upheaval introduced to the system	Model Drift
Stage 3	Dissatisfaction with the terms of the hero contract	Increased provision of the hero label	Initial ineffective efforts to support existing system	Model Drift
Stage 4	Engagement in informal social communications to effect change	Increase in supportive actions going beyond use of hero label	Efforts varying in efficacy to support heroes	Model Crisis
Stage 5	Experience of poor individual health outcomes	Expressions of empathy, and inaction	Efforts to retain and upgrade compensation to heroes	Model Crisis
Stage 6	Individual actions taken to preserve individual well-being	Expressions of empathy, and inaction	Continued efforts to retain and upgrade heroes	Model Revolution
Stage 7	Search for alternatives, including exiting the system	Expressions of empathy, and inaction	Continued efforts to retain and upgrade heroes	Model Revolution
Stage 8	Demand to revise original hero contract and the system	Show of support for new system and contract	Capitulation to the new system	Paradigm Change Acceptance

Table 1: Temporal ordering of stages in the Dynamic Negotiated Exchange model.

Finally, if the system remains dysfunctional as the result of the major upheaval, Stage 8 describes the emergence of a new, healthier system that provides a more equitable and satisfying exchange for heroic leaders. This new model need not be a revolutionary departure from the old broken system, but it can be. If the new system represents radical change, the far-right column of Table 1 describes the entire unfolding of the DNE process as consistent with the stages of structural change as described by Thomas Kuhn (1970) in his iconic model of how scientific revolutions proceed. Kuhn argued that normal science is marked by a calm satisfying equilibrium and that a crisis emerges when anomalous discoveries do not fit the existing paradigm. When efforts to resolve the anomalies become too unwieldy and dissatisfying, a new revolutionary paradigm emerges that resolves the crisis.

From the preceding analysis and synthesis of past theories of heroism, exchange, negotiation, and responses to emergencies, we propose the following testable hypotheses for future research on the NDE model:

Hypothesis 1: People hold an implicit belief in the hero contract. Specifically, people believe that an equitable exchange exists between heroes and beneficiaries of heroism such that heroes should perform great public service, and, in return, beneficiaries should laud them by using the hero label.

Hypothesis 1a: This implicit belief in the hero contract is more likely to be strongly held by beneficiaries of heroism than by heroes themselves.

Hypothesis 1b: Heroes are likely to accept or tolerate the implied hero contract in noncrisis conditions, but will reject the hero label and the hero contract during crises that place them in long-term conditions that endanger them and others.

Hypothesis 1c: This same implicit belief in the hero contract will lead beneficiaries to rescind their hero designations if they perceive their heroes to be conducting themselves in a less than exemplary way. The rescinding of the hero label will be accompanied by extreme negative affect directed toward the former hero for violation of contract.

Hypothesis 2: During a major societal crisis, recipients of heroism will be motivated to increase their application of the hero label to describe the attributes of heroic leaders working to ameliorate the crisis.

Hypothesis 2a: The stronger the belief in the hero contract, the more likely recipients will increase their assignment of the hero label to heroes.

Hypothesis 2b: The stronger the belief in the hero contract, the more strongly recipients will believe that the hero label is a form of payment for heroes.

Hypothesis 2c: The stronger the belief in the hero contract, the more likely recipients will believe that using the label provides them with a psychological excuse for not taking steps to ease the burden of heroes.

Hypothesis 2d: The more severe and long in duration the crisis, the more likely heroes will reject the hero label assigned to them by recipients.

Hypothesis 2e: The more severe and the longer the duration of the crisis, the more likely heroes will perceive an inequity in their exchange relationship with recipients.

Hypothesis 3: Perceived inequities in the hero–recipient exchange will lead to dissatisfaction with the hero–recipient relationship. This should hold true for both heroes and recipients.

Hypothesis 4: Dissatisfaction from perceived inequities in the hero–recipient exchange will first manifest in informal social communications from heroes conveying the dissatisfaction.

Hypothesis 5: Initial informal social communications directed toward the public will promote public awareness of the issue, but also, to a lesser extent, a public interpretation that a problem exists and, to a much lesser extent, an assumption of responsibility from the public for solving the problem.

Hypothesis 6: There will be a positive relationship between the frequency in the number of informal social communications and overall awareness of the issue, an interpretation that a problem exists, and an assumption of responsibility for solving the problem.

Hypothesis 7: To the extent that informal social communications fail to effect change in the inequities in the hero–recipient relationship, heroes will engage in more formal communications with organizational and/or governmental leadership.

Hypothesis 8: Dissatisfaction felt by heroes that is not assuaged by informal and formal communications will lead to a significant increase in poor mental health outcomes for heroes in the form of burnout, PTSD, depression, anxiety, and suicide ideology.

Hypothesis 9: Dissatisfaction felt by heroes that is not assuaged by informal and formal communications will likely be accompanied by either an entire abdication of the hero role (the Great Resignation) or in the hero's decision to continue performing heroic actions in a different group or organization.

Hypothesis 10: Informal and/or formal social communications and negotiations between heroes and their organizational leaders, in response to dissatisfaction felt by heroes about inequities in their exchange relationship, may result in a restoration of equity in the form of the Great Upgrade or the Great Retention, both of which should assuage hero dissatisfaction.

These ten hypotheses (and subhypotheses) offer future investigators a start in their empirical endeavors to illuminate the rich psychological nuances of the DNE model. There are no doubt more subtle, and perhaps more overt, stages of the psychological exchange and behavioral exchange that are forever ongoing between our heroes and the beneficiaries of heroism. We offer these hypotheses as a guide to further work with an acknowledgment that we are no doubt failing to capture all the psychological elements of the hero–recipient exchange relationship.

Summary and Concluding Thoughts

We began this article with a description of the resentment held by health care workers for being labeled heroes during one of the worst worldwide health care disasters of the past century. Our goal here was to present a framework for understanding this resentment and its consequences for both heroes and recipients of heroism during major crises. We introduced a psychological and behavioral model for understanding the complex and ever-changing nature of the relationship between heroes and recipients, a model called the Dynamic Negotiated Exchange model, incorporating four different research areas: the conceptualizations of heroism and heroic leadership, exchange theories of heroism and heroic leadership, models of negotiation, and the theory of response stages in emergency situations. Our analysis integrated these four disparate literatures to illuminate the psychology of emotions and behaviors displayed by heroes and by the public during the COVID-19 pandemic.

Our DNE model proposes that the hero label is a commodity in an exchange relationship, and that this exchange is dynamic, not static, and that it is sensitive to perceived and implied inequities that shift over time in response to ever-changing circumstances. This new model dispels any notions that heroic leadership and followership is a static, passive process. The terms of the implied hero contract are under constant review by both parties as circumstances change, and these reviews may occur consciously or unconsciously, again depending on current conditions. Changes in the quality of one's life conditions and circumstances engender various emotional responses and require action steps from both heroes and the recipients of heroic actions. According to the DNE model, heroism turns out to be a constant negotiation, in ways both small and large, and involving both informal and formal communications.

Heroism has typically been viewed by society and by most scholars as a universally positive phenomenon. Heroism does immense good and heroes are rightly celebrated. Heroism promotes emotional and social well-being; it benefits the heroic actor, the recipient of the action, and society as a whole; it endows people with meaning, purpose, and coherence; it instills us with

wisdom, inspiration, healing, and a growth mindset; it confers obvious benefits to the recipient of the heroic act and also benefits to the heroic actor and society as a whole; it offers meaning, purpose, and coherence to readers and listeners; it instills people with wisdom, goals, moral role models, inspiration, healing, and emotional intelligence. The mere act of thinking about heroes endows people with positive emotions and a sense of social connectedness. Counselors and therapists use the hero's journey to help their clients acquire resilience and achieve heroic transformation. Heroism fosters a readiness to become happy, secure, wise, and growth oriented. This is just a partial list of the unquestioned benefits of heroism (see Allison, Goethals, and Kramer 2017; Allison and Green 2020; and Efthimiou, Allison, and Franco 2018, for reviews).

Despite this impressive listing of the positive consequences of heroism, the COVID-19 pandemic exposed a dark side to heroism, or perhaps a dark side to our naïve, limited, and short-sighted interpretation of heroism. We love doctors, nurses, and teachers, and yet some of us expressed rage toward them over the issue of wearing masks during the pandemic (Jones and Kessler 2020). We appear to support our heroes only when it is convenient to do so, or only when these heroes meet the terms of our implied contract with them. Apparently, people are capable of performing bad behavior toward anyone, most especially toward society's heroes who presumably are those we love the most.

To gain a better understanding of this pattern, we turn to a recent conceptualization of heroism offered by Beggan (2019), who describes what he calls the *grey zone of heroism.* Beggan makes the rather provocative assertion that heroism has a downside, and that the heroic response is not always the best response. Beggan argues that there are many social situations in which it is not clear whether a heroic action is necessary, desired, or even heroic. There may be good reasons why people should not act in a heroic manner, and although Beggan does not say so explicitly, his formulation suggests that there are times when heroes should think twice before taking the heroic plunge. Our hope is that the DNE model spells out some circumstances when taking the heroic plunge makes psychological sense and when it doesn't.

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