AN EXAMINATION OF THE EFFECTS OF CHARISMATIC LEADERSHIP ON
FOLLOWER PERFORMANCE IN FACE-TO-FACE AND VIRTUAL SETTINGS

by

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ABSTRACT

BRITTANY ERNST. An examination of the effects of charismatic leadership on follower performance in face-to-face and virtual settings. (Under the direction of DR. GEORGE BANKS)

Charismatic leadership is a powerful, trainable set of skills. Charismatic leaders achieve their effect on followers through the use of stories, metaphors, emotional messaging, and nonverbal gestures (Antonakis, Bastardoz, Jacquart, & Shamir, 2016). Although many modern organizations rely heavily on technology-mediated communication, the power of charismatic leadership has not been fully examined in this context. Further, the field is lacking experimental research on charismatic leadership and behavioral outcomes, such as task performance. To address these limitations, I draw upon signaling theory to investigate how observable charismatic leadership tactics (CLTs) affect follower task and extra-role performance in a realistic setting. I conducted two experimental studies in which participants completed a task after receiving instruction from a charismatic or non-charismatic leader. CLTs were effective in increasing follower performance in a face-to-face setting (Study 1), but not in a virtual setting (Study 2). In order to explore potential theoretical explanations of the effects of CLTs, I also conducted a study in which participants viewed a video of a charismatic or non-charismatic leader and responded to survey items (Study 3). CLTs positively affected some perceptions of the leader (i.e., prototypicality, competence, and influencing ability). Theoretical and practical implications are discussed. Specifically, I explain how signaling theory can be applied to charismatic leadership, and how charisma can be trained in an organizational context.

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CHAPTER 1: INTRODUCTION

Charismatic leadership is a powerful, trainable set of skills relevant for all kinds of leaders (Antonakis et al., 2011, 2012; Towler, 2003). Drawing upon signaling theory (Connelly et al., 2011), charismatic leadership is defined as "values-based, symbolic, and emotion-laden leader signaling" (Antonakis et al., 2016, p. 304). Charismatic leadership predicts leader effectiveness (Awamleh & Gardner, 1999), follower task performance and attitudes (Kirkpatrick & Locke, 1996), cooperation (De Cremer & Van Knippenberg, 2002), and firm performance (Waldman et al., 2001). More importantly, charisma is not limited to an inherent trait one is born with; it can be trained and developed (Antonakis et al., 2012). Despite the popularity of charismatic leadership in management, organizational behavior, and applied psychology literature, several limitations still exist which must be addressed.

The first major limitation in the literature on charismatic leadership is that the majority of research has been conducted in a face-to-face context (Banks et al., 2017). Some of the most highly cited theories (e.g. Bass, 1985; House, 1977) and empirical studies (e.g. Howell & Frost, 1989; Kirkpatrick & Locke, 1996) of charismatic leadership were conducted over 20 years ago, before the widespread prevalence of the internet and virtual work. This is a pressing issue because today, most organizations employ some form of virtual or "e-leadership," in which the leadership process is mediated by technology (Avolio et al., 2000; Liao, 2017). It is therefore not surprising that research on virtual work in organizations has exploded in the last 20 years (Raghuram et al., 2018). However, despite the extensive support for charismatic leadership, only a handful of

studies have attempted to examine its significance in a virtual setting. Unfortunately, the few virtual charismatic leadership studies that have been conducted are inadequate for several reasons.

First, when studying virtual leadership, researchers often compare transformational and transactional leadership and describe charisma as either interchangeable with (e.g. Hoyt & Blascovich, 2003; Joshi et al., 2008) or a subcomponent of transformational leadership (e.g. Hambley et al., 2007; Purvanova & Bono, 2009; Ruggieri, 2009). These studies do not provide information about the effectiveness of charismatic leadership in a virtual setting because they do not properly operationalize charisma. Charismatic leadership and transformational leadership have been conceptually separated (Antonakis et al., 2016; Banks et al., 2017). In fact, the current argument is that "the two constructs may even be incompatible" (Antonakis et al., 2016, p. 301). Therefore, although it is one of the most widely studied leadership styles (Lowe & Gardner, 2000), high-quality studies that specifically focus on charismatic leadership in a virtual context are essentially nonexistent in the current literature.

A second important limitation in the charisma literature is the widespread failure to draw robust causal inferences due to endogeneity bias and poor measurement (Antonakis et al., 2014). Endogeneity bias occurs when a predictor variable depends on other variables not included in the analysis, so its effect on the outcome cannot be accurately interpreted (Antonakis et al., 2010). For example, consider a prototypical study where employees are asked to rate their supervisors' communication behaviors and leadership effectiveness. In this case, researchers may attempt to make a claim about the relationship between communication behavior and leader effectiveness. However, there

are likely many other associated, but omitted variables that could be driving perceptions of effectiveness (e.g., personality, attractiveness, emotional intelligence). Many empirical findings, particularly in the field of leadership, are merely correlational and are subject to this bias; therefore they must be interpreted with caution (Banks et al., 2018). Research on charismatic leadership is no exception. To illustrate this point, Antonakis and colleagues (2016) surveyed the current charismatic leadership literature. They found that of the 210 published quantitative studies measuring charisma, nearly half (98) of the articles had to be excluded from their analysis because they incorrectly modeled charisma as an endogenous variable, but used it to predict outcomes. This left just 112 of 210 potential studies that properly modeled charismatic leadership.

Historically, the measurement of charisma has been flawed. This is largely due to the reliance on the Multifactor Leadership Questionnaire (MLQ). The MLQ captures three leadership dimensions: transformational, transactional, and passive-avoidant leadership (Antonakis et al., 2016; Avolio & Bass, 2004). In the MLQ, charisma is operationalized as a facet of transformational leadership and is measured with either one or two of its subscales (Banks et al., 2017). This is problematic because as mentioned above, charismatic leadership and transformational leadership are conceptually distinct (Antonakis et al., 2016). Regardless, leadership researchers still rely on the MLQ as a primary measure of charisma.

In a meta-analytic review of charismatic leadership, Banks et al. (2017) analyzed 76 independent samples, all of which were survey-based and predominantly used dimensions of the MLQ to capture charisma. This body of research is problematic because there is no validated measure of charisma (Banks et al., 2017). The field lacks

studies that demonstrate a causal effect on outcomes beyond correlations measured with survey instruments. Thus, these limited data severely hinder theory advancement. To resolve these concerns, there have been calls for research designs with more objective measures of charisma that allow for causal inferences and direct tests of theories (Antonakis et al., 2016; Banks et al., 2018). There have been specific calls for more experimental research (Brown & Lord, 1999; Eden, 2017; Falk & Heckman, 2009), and especially studies that use realistic treatments (Antonakis et al., 2016; Podsakoff & Podsakoff, 2019).

A third limitation in organizational behavior, management, applied psychology, and specifically charismatic leadership literature is the dominance of self-report data and lack of direct behavioral observation (Baumeister et al., 2007; Podsakoff & Podsakoff, 2019). In the same survey of charismatic leadership literature described above (Antonakis et al., 2016), of the 112 properly modeled quantitative studies, only one-third used an experimental procedure and only one-fourth predicted objective outcomes (rather than perceptual ones). This is concerning for several reasons. Most modern leadership theories focus explicitly on leader behaviors; a widely accepted approach has been to propose taxonomies of "effective leader behaviors" (Podsakoff & Podsakoff, 2019; Yukl, 2012). This approach also applies to some of the most popular charismatic leadership theories (Antonakis et al., 2016; Conger & Kanungo, 1987; House, 1977). However, the problem with this approach is that only a small portion of studies actually manipulate and/or directly observe leader behavior (Yukl, 2012). Importantly, the literature also lacks adequate data on follower behaviors that are influenced by leader behaviors. Instead, the majority of published studies rely on follower perceptions of leadership, self-report

attitudes, and behavioral intentions (Antonakis et al., 2016; Baumeister et al., 2007; Lowe & Gardner, 2000). Perceptions of leadership cannot be equated to leader behaviors, and self-reported attitudes cannot be equated to behavioral outcomes (Dinh et al., 2014). To adequately test leadership theories that are based upon behavioral frameworks, it is essential to directly study leader and follower behaviors (for a review see Podsakoff & Podsakoff, 2019).

Another issue with the overreliance on leadership perceptions and follower attitudes (rather than behaviors) is that it creates challenges for practitioners in the field. Many organizational talent strategies include some form of leadership training and development programs (Beer et al., 2016). While employee perceptions may still be important, these organizations are most often interested in the measurable, observable skills and behavioral outcomes that will result from the programs (Banks et al., 2016; Monarth, 2015). High-quality leadership development programs tend to focus on critical behaviors which can be trained, measured, and improved (Monarth, 2015; Savani & Zou, 2018), and leaders are interested in behavior change as a key outcome (Day, 2000). Empirical studies that exclusively examine self-reported outcomes are not nearly as useful for this objective. Thus, conducting realistic leadership experiments that focus on behavior is not only critical for theory advancement, it also has direct implications for training and development in organizations. In other words, demonstrating that charismatic behavior can be manipulated and influence follower behavior in a research setting suggests the possibility of training and applying it in the workplace.

Currently, there is support for the relationship between charismatic leadership and performance, among other key outcomes (Banks et al., 2017). However, we do not know

whether the effects occur consistently in a modern work environment, where employees are often dispersed across different locations and communicate only through technology. Further, the studies that exist in this literature are largely subject to endogeneity bias and rely heavily on self-report data (Antonakis et al., 2016; Banks et al., 2017). In the following studies, I confront each of these limitations in the charismatic leadership literature and make the following contributions.

First, I review charismatic leadership theory and present a model which applies signaling theory as a theoretical framework for the studies (see Figure 1). I then walk through each box in the model to explain its significance in the present work. In doing so, I propose hypotheses regarding the aforementioned gaps. I assess the effectiveness of charismatic leadership by testing this model in a face-to-face context in Study 1 and a virtual context in Study 2. The studies advance theory and minimize endogeneity bias with an experimental design in which charisma is manipulated and participants complete a realistic task with an incentive. In Study 3, I explore potential theoretical explanations for the effect of charisma in a virtual setting, something that has not yet been done in charismatic leadership research. Because this series of studies uses behavioral manipulation and direct observation, it can provide informative practical recommendations. I conclude the paper by describing theoretical and practical implications, as well as opportunities for future research.

Theoretical Framework

Review of Charismatic Leadership Theory

Origins of charisma. The roots of the word "charisma" can be traced all the way back to the ancient Greeks; originally, "charis" referred to a variety of positive

phenomena, including charm, excitement, grace, and allurement (Maclachlan, 1996).
Charisma has also been referenced in a religious context, meaning a spiritual gift of grace
(Potts, 2009). Today, charisma is defined (in a non-academic context) as "special
magnetic charm or appeal" (*Charisma*, 2019). Since its introduction, the term has taken
on many different connotations from mystical to conversational to scientific.

The systematic study of charismatic leadership originated in sociology and
political science. Specifically, sociologist Max Weber is credited with coining the term
"charismatic authority," or power that is derived from personal adoration from followers
(Weber, 1947). Charismatic authority is contrasted with traditional, rational authority
which is attributed because of official position or status. In a foundational book on
leadership, Burns (1978) discussed charisma from a political science perspective. He
criticized the concept for its ambiguity and inconsistent interpretations across disciplines.
Instead, Burns argued for replacing "leader charisma" with "heroic leadership" to more
clearly describe the relationship in which followers afford power solely because of the
leader's admirable character.

As scientists continued to study this phenomenon, it was generally believed that
charisma was an innate, mystical attribute possessed by very few people (Willner, 1984).
In fact, charisma was often referred to as a "superhuman" quality (Weber, 1947).
Unfortunately, this conceptualization of charisma is very limited, as it does not allow for
training or development of charismatic leaders. Defining charisma as a mysterious,
unattainable quality makes it very difficult to study and therefore understand its causal
effects on key outcomes. For example, if we believe that Oprah Winfrey is a charismatic
leader (as many do) because she was born this way, what does that mean for those who

were *not* born with charisma? It restricts our ability to understand how others can model her behavior and achieve similar effects. Conversely, if we consider the observable, overt tactics Oprah Winfrey uses to inspire followers (such as enthusiastic speeches and dramatic gestures) as the foundation for her charisma, it becomes much more feasible for others to execute the same effect.

It is important to note that some people may be naturally inclined to exhibit charismatic leadership tactics, above and beyond what a typical person may do. That is, some people have a very high "baseline" level of charisma, and are often able to use their natural abilities in combination with positions of power or celebrity to leave followers awestruck (Bastardoz et al., 2018; Keltner & Haidt, 2003). These people (think Gandhi or Nelson Mandela) have *gravitas;* they can "can stir the souls of thousands" and motivate people to "take on heroic and self-sacrificing missions" (Keltner & Haidt, 2003). It is certainly true that these naturally charismatic, highly engaging individuals exist, but they are quite rare and are *not* the focus of this paper. This phenomenon is similar to the notion of professional athletic potential; while only a tiny fraction of the population will go to the Olympics, anyone can improve their running performance with training and practice. It is true that some people may have a higher baseline level of skill and have the potential to be extraordinary, but the key point is that charisma can still be trained and improved in anyone. The focus of charisma in an organizational context (and in the context of the present studies) is on how it can be applied to everyday employees and leaders to achieve a meaningful, but not necessarily life-changing or sensational effect.

Charismatic leadership in applied psychology and management. House (1977) was the first to propose a behavioral theory of charismatic leadership in applied

psychology. He outlined behaviors and characteristics of charismatic leaders in an attempt to clarify the theory. According to House (1977), charismatic leader behaviors include role modeling, image building, goal articulation, setting high expectations and instilling confidence, as well as arousing motives that are relevant to the group's mission. Charismatic leader attributes include self-confidence, dominance, a strong moral conviction, and a need to influence. House (1977) also claimed that charismatic leaders are more likely to have these effects on followers in times of uncertainty and change. As the first of its kind, this theory laid the groundwork for future applied psychology and management scholars to develop and expand our understanding of charismatic leadership.

In 1987, Conger and Kanungo offered a slightly different theory. They explained charismatic leadership as an attributional phenomenon from the follower's perspective. Specifically, they stated that charismatic leadership is not only based on leader behaviors and attributes, but is instead an "interplay between leader's attributes and the needs, beliefs, values, and perceptions of the followers" (Conger & Kanungo, 1987, p. 639). This theory includes a similar, but slightly different set of charismatic leader behaviors from House's (1977) theory. The core behaviors include establishing a future vision, engaging in unconventional behavior, possessing sensitivity to the environment, articulation, use of personal power, pursuing a reformer role, and emerging in times of change.

These theories helped chart the course for the "neo-charismatic" paradigm, which was dominant in leadership research in the 1970s through the early 2000s (House & Aditya, 1997; Lord, Day, Zaccaro, Avolio, & Eagly, 2017). Other charismatic leadership theories that were influential during this era include those proposed by Bass (1985),

Conger and Kanungo (1994), House and Howell (1992), Klein and House (1995),

Shamir, House, and Arthur (1993), and Shamir and Howell (1999). Each of these

contributions offered a unique component to the theory of charisma. Although authors

often built upon prior theories, there are many nuanced variations as far as key behaviors,

contextual requirements, and mediating processes. Generally speaking, throughout its

history, charismatic leadership has been criticized for overlap with other theories and a

lack of core, central behaviors that distinguish charismatic leadership from other styles

(Antonakis et al., 2016; Avolio & Yammarino, 2002; Yukl, 1999).

    Confusion with transformational leadership. Most notably, charismatic

leadership has been confounded with transformational leadership (Antonakis et al.,

2016). As charismatic leadership theories were developing, Bass (1985) introduced the

Full Range Leadership Theory in the field of management/organizational behavior. This

theory expands upon transactional and transformational leadership, two leadership factors

originally proposed by Burns (1978). The Full Range Leadership theory is mainly

defined by its measure, the Multifactor Leadership Questionnaire (MLQ), developed by

Avolio and Bass (1999). According to the theory, leaders can simultaneously embody

both factors (transformational and transactional,) but tend to exemplify more of one than

the other. The first factor, transactional leadership, is based on a more formal exchange

relationship between the leader and follower. Transformational leadership, on the other

hand, is based on the leader's ability to motivate or "transform" the follower to act

beyond his or her own self-interest (Bass, 1999). A third factor assessed by the MLQ,

passive-avoidant, represents an absence of leadership (Avolio & Bass, 2004). By and

large, transformational leadership is largely preferred and viewed as more effective than

the other factors. When predicting positive outcomes (such as follower satisfaction and leader effectiveness) transformational leadership had overall higher effect sizes compared to transactional leadership (Judge & Piccolo, 2004). Further, transformational leadership predicted four of five key leader outcomes after controlling for all three transactional leadership dimensions (Banks et al., 2017; Judge & Piccolo, 2004).

Bass later categorized charisma as one of the four components of transformational leadership (Bass, 1990). On the MLQ, the subscale called "idealized influence" is interchangeable with the term "charisma." Specifically, idealized influence (or charisma) refers to having high ethical and moral standards and a focus on ideals (Bass, 1985, 1990). The remaining three components of transformational leadership are inspirational motivation, intellectual stimulation, and individualized consideration (Bass, 1985). To further complicate this issue, some authors have used a second sub-dimension of transformational leadership, inspirational motivation, to measure charisma as well (Banks et al., 2017; Judge & Piccolo, 2004). Clearly, there has been a lack of agreement on the operationalization and use of the MLQ to capture the construct. Many researchers have come to the consensus that this instrument is not a perfect measure of charismatic leadership. It has been noted that the MLQ may be useful as it "captures the essence of charismatic leadership…but not for specific charismatic leader behaviors" (House & Aditya, 1997, p. 142).

The muddling of these two theories has affected subsequent research on charismatic leadership. In fact, one of the most highly cited theories of charismatic leadership states that transformational and charismatic leadership are, in fact, the same thing (Shamir et al., 1993). Multiple researchers have critiqued both theories and

attempted to clarify the differences between them (e.g. van Knippenberg & Sitkin, 2013; Yukl, 1999). Both theories are criticized for their lack of explanation of the mediating process by which the charismatic effect occurs. Transformational leadership is criticized for its overlap with transactional leadership, and charismatic leadership is criticized for its lack of clear, core concepts that define it (van Knippenberg & Sitkin, 2013). Yukl (1999) posited that transformational leadership and charismatic leadership are in fact distinct from one another. The distinction is that transformational leadership emphasizes follower development and a close relationship between leader and follower (this claim was later supported by empirical research, cf. Dvir et al., 2002). On the other hand, charismatic leadership emphasizes the leader's ambitious vision, and the relationship can exist at a higher level without the leader and follower ever actually interacting (this idea is also supported in later empirical research, cf. Antonakis et al., 2015; Awamleh & Gardner, 1999). In general, charismatic leaders are viewed as more heroic and spectacular, whereas transformational leaders are more developmental as they work closely to "transform" the followers and their beliefs.

Regardless of this distinction, researchers have continued to conflate transformational and charismatic leadership, and many still use the MLQ to measure both leadership styles (van Knippenberg & Sitkin, 2013). In fact, the theory is sometimes referred to as "charismatic-transformational leadership," which can create additional confusion for researchers (van Knippenberg & Sitkin, 2013). Some progress was made in terms of experiments that specifically isolated and measured the effects of charismatic leadership (e.g. Flynn & Staw, 2004; Frese et al., 2003; Towler, 2003), but the lack of consistency has remained a serious problem for leadership research. Thus, there was still

no "conceptually sound and bounded definition of charismatic-transformational leadership" (van Knippenberg & Sitkin, 2013, p. 4).

Finally, Antonakis and colleagues (2016) once again asserted that charismatic leadership and transformational leadership are distinct. They drew upon signaling theory to propose a new, carefully written and concise definition of charisma. In doing so, they attempted to divorce charismatic leadership from transformational leadership once and for all. The studies in the current work follow these guidelines and do not treat charismatic and transformational leadership as interchangeable.

Charismatic Leadership and Signaling Theory

Origins of signaling theory. As previously stated, charismatic leadership has been re-defined as "values-based, symbolic, and emotion-laden leader signaling" (Antonakis et al., 2016, p. 304). According to signaling theory, when two parties have unequal amounts of information one party "signals" to the other to reduce the disparity. The receiver (the party with less information) actively looks for signals from the sender (the party with more or better information) to determine a judgment or course of action (Connelly et al., 2011).

The foundation of signaling theory is information asymmetry. Information asymmetry is defined as "a condition wherein one party in a relationship has more or better information than another." (Bergh et al., 2018, p. 123). This concept has been generalized to a variety of phenomena across disciplines. In addition, each "party" can exist at nearly any level; for example, the sender and/or receiver can represent an individual, a group, or a collective such as an organization (Connelly et al., 2011). In evolutionary biology, signaling theory is used to explain how animals signal their fitness

(Dawkins, 1978). Specifically, organisms (including both human and non-human animals) use signals to communicate with one another and evaluate the costs and benefits of future actions (Hasson, 1997). For example, two male animals in competition with one another may send and receive signals about their strength and ability to fight, which then helps inform how they proceed in the interaction.

This basic principle of signaling one's quality has also been applied in a broader organizational context (Connelly et al., 2011; Spence, 2002). Spence is credited with applying signaling theory to markets. Initially, he described how job applicants in the labor market reduce information asymmetry with employers by signaling about their own quality as a candidate. Candidates signal their high quality by communicating information about education (which is a "costly" signal equated with intelligence, hard work, and prestige) (Spence, 1978). The theory has been more broadly applied to any kind of market which has an information asymmetry between sellers and buyers, also referred to as "those with more [and] those with less information" (Spence, 2002, p. 434). Connelly et al. (2011) reviewed studies in management which have applied signaling theory as a framework; these studies span the topics of strategy, entrepreneurship, and organizational behavior.

Signaling theory in leadership research. More recently, signaling theory has been applied to the study of leadership (Grabo et al., 2017). Like the evolutionary context and the labor market context, in a leadership context there are two parties (in this case, a leader and a follower) who may have unequal amounts of information. Most often, the leader has more or better information than the follower, and the follower seeks information to make a judgment or take action. To reduce the asymmetry between them,

the leader may signal about his or her own quality as a leader. The follower can make judgments about the likelihood of a potential leader being successful based on the information or signals. The follower could then determine whether he or she will afford power to the leader by "following" him or her and decide whether to act in accordance with the leader's goals.

Leader signals have been described in two different ways; some have argued for *embodied* signals (e.g., facial structure, height, masculinity) which have been shown to affect followers' perceptions of charisma (Reh et al., 2017). Embodied signals are similar to status characteristics, which are often studied by sociologists and social psychologists in other social interactions. Status characteristics are individual differences that relate to inferences about expected behaviors or abilities (Berger et al., 1972). Status characteristics are usually associated with prestige or power, and include classifications by gender, age, and race. For example, being male (a status characteristic) may trigger assumptions about a person's abilities in a professional setting (e.g., ability to lead a meeting).

Similarly, there are some individual differences that have been shown to relate to perceptions of charisma (See Figure 1, Box 1). Of the antecedents that were available for meta-analysis, cognitive ability and extraversion had the largest effect sizes when predicting charisma (Banks et al., 2017). It is also important to note that the relationship between charisma and gender is largely under-explored and needs to be addressed in future research. Most studies have examined male charismatic leaders, or only used surveys in attempt to measure gender differences (Antonakis et al., 2016; Banks et al., 2017). Although there appear to be individual differences that are related to charisma,

focusing on inherent traits or attributes is not nearly as practical for leaders who wish to develop this quality. The present work does not examine antecedents to charisma, but they are included in this model for the sake of completeness. For this reason, there is a dotted line between Box 1 and Box 2 in the model in Figure 1.

Another way to conceptualize signals is to define them as intentional, overt, and used to deliberately convey positive qualities about oneself (Connelly et al., 2011). In line with the new definition by Antonakis et al. (2016) and for the purpose of this study, I focus on intentional, observable signals. These behaviors are under the control of the signaler, as opposed to inherent qualities such as gender, height, or attractiveness. While it is difficult to manipulate a leader's appearance or status in the real world, the intentional signals are behaviors that can be trained and developed to increase a person's charisma, and that is the focus of the present work.

Signaling theory and leadership communication models. Signaling theory, in the context of charismatic leadership, resembles the transmissional communication model from organizational communication research. Gail Fairhurst is credited with applying organizational communication research to the study of leadership. She has contrasted the communication approach with the traditional leadership psychology approach. Fairhurst and Connaughton (2014) discussed the communication-centered view of leadership, which they explained is both "transmissional *and* meaning-centered" (Fairhurst & Connaughton, 2014, p. 8). These two perspectives examine how communication is central to, or even constitutive of, leadership. In the transmissional model, communication is viewed as a conduit; there are inputs, processes, and outputs (Fairhurst & Connaughton, 2014). From this perspective, researchers are interested in studying the

transmission of messages, much like the sending and receiving of signals. The authors outlined how the transmissional model has been applied to "neo-charisma" research. The most common way this model has been incorporated in neo-charismatic leadership research is through studies of vision formation and articulation, in which leaders aim to influence followers to achieve a favorable outcome (Fairhurst & Connaughton, 2014).

The other perspective of leadership communication is the meaning-centered, or discursive view (Fairhurst, 2008; Fairhurst & Connaughton, 2014). More recently, organizational communication scholars and social science theories in general have taken a "linguistic turn" (Fairhurst & Connaughton, 2014, p. 8), in which there is more emphasis on the use and meaning of language. From this perspective, leadership is co-constructed through discourse and interaction between the leader and other actors, rather than situated in the person (as it is in the leadership psychology approach). This ongoing, reflexive interaction is quite different from the process-oriented view in the transmissional model. It is important to note that these are not conflicting or opposing views of leadership communication; instead, "researchers are using them to ask very different questions about leadership" (Fairhurst & Connaughton, 2014, p. 12). For the purpose of the present work and the research questions of interest in this study, the transmissional model of communication is most relevant as a similar theoretical framework. In this framework, observable signals sent by the leader can be viewed as inputs into the communication process. One type of signal that leaders can transmit is charismatic leadership signals.

Charismatic leadership tactics as signals. Charismatic leadership tactics (CLTs) are trainable, observable behaviors that can be considered signals to followers. CLTs can

be verbal and nonverbal, and there have been at least twelve formally proposed and validated (Antonakis et al., 2011) (See Figure 1, Box 2). The nine core verbal CLTs are metaphors, stories/anecdotes, moral conviction, sentiment of the collective, setting high expectations, communicating confidence that goals can be achieved, contrasts, lists, and rhetorical questions. The three core nonverbal CLTs are body gestures, facial expressions, and using an animated voice tone (Antonakis et al., 2011). A more detailed overview of the CLTs with definitions and examples is presented in Table 1.

This set of CLTs has been validated by Antonakis and colleagues in at least six different studies, in a variety of contexts and samples. In a set of mixed-design field studies, researchers trained managers and MBA students on these verbal and nonverbal tactics and then followed up after three months (for the managers) or six weeks (for the MBA students.) The researchers evaluated the managers' coworker ratings and the students' ability to deliver a speech in a leadership course. In both samples, the participants who received charismatic leadership training saw positive improvements in their ratings of charisma, as well as leader prototypicality and emergence (Antonakis et al., 2011). In an experimental study, actors were trained to deliver a motivational speech containing CLTs. External manipulation checks indicated that the actors using CLTs were in fact perceived as more charismatic and they elicited increased follower output on an envelope-stuffing task. The effect was comparable to that of a sizeable financial incentive offered to participants (Antonakis et al., 2015). In another set of studies, researchers coded CLTs in communications from informal leaders via TED talks and Twitter posts (Tur et al., 2018). When leaders used more CLTs in the TED talks, the videos received more views and were rated as more "inspiring" by viewers, even after

controlling for other relevant predictors. On Twitter, tweets that contained more CLTs received more retweets from followers, suggesting more leader influence (Tur et al., 2018). Another study employed a "natural experiment" design; researchers analyzed transcripts of speeches delivered by a French president after a series of national crises. Results suggested that the leader increased his use of CLTs after these events, and that the use of CLTs were associated with higher approval ratings (Bastardoz et al., 2018). Overall, these studies illustrate that charisma is not merely a trait that a leader is born with, but that it can be objectively manipulated and/or measured, and it can have a meaningful effect on external outcomes.

Prior to the formal specification of these CLTs, a multitude of prior studies have demonstrated that when leaders are trained to use these verbal and nonverbal behaviors, they are rated as more charismatic by followers. In many of these studies, professional actors were trained to display one or more of the tactics, and they were able to achieve the desired study outcomes. Although professionals may be more skilled than the average person at employing specific communication tactics, this research is important to determine whether an effect can actually occur and then be applied to an everyday organizational setting. For example, Awamleh and Gardner (1999) trained an actor to deliver a speech with visionary content (i.e., symbolic language and rhetorical devices focusing on the future) and use a "strong" versus a "weak" delivery style. In the "strong" delivery condition, leaders maintained eye contact and used facial expressions and dynamic gestures; in the "weak" delivery condition, the leaders avoided these nonverbal behaviors. While the visionary content was related to the outcomes of interest, the "strong" delivery method was the best predictor of follower-rated charisma and leader

effectiveness (Awamleh & Gardner, 1999). In another experimental study, Howell and

Frost (1989) successfully trained actors to portray three different leadership styles:

charismatic, initiating structure, and consideration. They found that the trained

charismatic actors (who communicated an overarching goal, high expectations,

confidence in followers, and used a confident, dynamic voice tone) produced more

positive follower outcomes. The participants working under the charismatic leader in this

experiment had higher task performance and task adjustment than those who worked

under the other two leadership styles (Howell & Frost, 1989).[1]

Follower outcomes. The outcomes of interest in the present study are task

performance and extra-role performance (See Figure 1, Box 3). To date, there have been

many studies linking charismatic leadership behaviors to both perceptual and behavioral

outcomes. Key perceptual outcomes include task attitudes such as task satisfaction

(Howell & Frost, 1989; Kirkpatrick & Locke, 1996; Towler, 2003), task clarity (Howell

& Frost, 1989; Kirkpatrick & Locke, 1996), and self-reported willingness to perform

beyond expectations (Hunt, Boal, & Dodge, 1999). Charismatic leader behaviors have

also predicted followers' attitudes about the leader, including adjustment to the leader

(Howell & Frost, 1989), reverence for the leader (Conger et al., 2000), affect for the

leader (Hunt et al., 1999), trust in the leader (Kirkpatrick & Locke, 1996; Shamir et al.,

1998), and leader approval ratings (Bastardoz et al., 2018). Lastly, charismatic leadership

[1] For additional examples of studies where charismatic leadership behaviors were successfully trained in both professional actors and laypeople, see Bono & Ilies (2006), Mio, Riggio, Levin, & Reese (2005), and Naidoo & Lord (2008).

behaviors predicted self-attitudes, such as self-efficacy (Shamir et al., 1998) and decreased role conflict (Howell & Frost, 1989).

While perceptions can be informative, useful, and sometimes the only type of outcome that is feasible to measure, the management and applied psychology literature is dominated by these self-report studies (Antonakis et al., 2016; Baumeister et al., 2007; Podsakoff & Podsakoff, 2019). This is problematic because survey-based research can be subject to common method bias (Conway & Lance, 2010) and simultaneity bias (Antonakis et al., 2010). Many studies, especially in leadership, are also afflicted by omitted variables and endogeneity, rendering the results uninformative (Antonakis et al., 2010; Banks et al., 2018; Podsakoff & Podsakoff, 2019). The field of leadership is generally lacking studies that examine objective, behavioral outcomes (Podsakoff & Podsakoff, 2019). Nonetheless, a handful of studies (with acceptable methods, eliminating or at least significantly reducing these concerns) have shown that charismatic leader behaviors predict task performance and extra-role performance (e.g. Antonakis et al., 2015; Howell & Frost, 1989; Hunt et al., 1999; Towler, 2003), and meta-analytic evidence has supported this (Banks et al., 2017). However, the data are not conclusive, and the relationship between charismatic leadership and performance may be complicated by other unknown contingency factors (Banks et al., 2017).

Further, as previously mentioned, performance has only been examined in face-to-face contexts. Therefore, the present focus is on two important measures of objective performance: follower task performance and extra role performance. In line with prior findings, I propose the following hypotheses in order to build upon the scant body of

research linking charismatic leadership to objective, behavioral outcomes. These hypotheses are tested in Study 1:

> **H1:** Charismatic Leadership Tactics (CLTs) predict increased follower task performance.

> **H2**: Charismatic Leadership Tactics (CLTs) predict increased follower extra-role performance.

Charismatic Leadership in Virtual Contexts

It is expected that charismatic leadership will predict higher follower performance, but the generalizability of this relationship across other contexts is still not clear. Thus, I test the relationship between CLTs and follower performance in a virtual setting in addition to a face-to-face setting. In organizational research, "virtuality" previously emphasized the geographic dispersion of team members (Kirkman & Mathieu, 2005). However, as the nature of virtual work has become more complex due to advances in technology and organizational policies (e.g., coworking and work-from-home arrangements), so has the operationalization of virtuality. Virtuality is now conceptualized as a multidimensional attribute that is not limited to geographic dispersion (Kirkman & Mathieu, 2005; Raghuram et al., 2018). In fact, employees that work in common locations often rely heavily on technology for communication and work processes, and this scenario would still constitute "virtual" work. There have been a variety of dimensions proposed across disciplines, but common features of virtuality include geographic dispersion, temporal dispersion, and dependence upon technology (Raghuram et al., 2018). Importantly, virtuality is not a black-and-white characteristic; instead, interactions among employees, teams, and organizations exist on a continuum of virtuality.

As previously mentioned, a major gap in the charismatic leadership literature is that we do not yet know whether charismatic leaders have the same effects on followers in virtual environments (Hambley et al., 2007). For the purposes of the present work, virtuality is operationalized as interactions that are geographically dispersed, temporally asynchronous, and completely mediated by technology (i.e., a computer). While there are gray areas in between fully face-to-face and fully mediated interactions, the goal of this study is to examine virtual interactions at one end of the spectrum (i.e., completely virtual, with no face-to-face interaction between leader and follower). Considering the pervasiveness of virtual work in modern organizations and the absence of research that has been done on charismatic leadership in a virtual setting, this is an area in need of further consideration.

Virtual leadership. Research on virtual leadership was not widespread until around 2000 when a review of "e-leadership," or leadership mediated by advanced information technology, was published (although this term has largely fallen out of favor) (Avolio et al., 2000). Some of the earliest empirical studies suggested that transformational leadership led to higher performance in virtual group tasks (Sosik, 1997; Sosik et al., 1997), but there was still not enough empirical data to draw definitive conclusions about effective leadership in a virtual environment. However, it was acknowledged that leading in a technology-mediated context warranted unique considerations compared to leading in a traditional, face-to-face context.

Some key findings regarding the effectiveness of virtual leaders were that establishing trust among members is critical for the team's success (Kirkman et al., 2002; Malhotra et al., 2007), and that trust can be established quickly and early on (Jarvenpaa &

Leidner, 1998). Further, virtual leaders were advised to initiate frequent check-ins with remote employees and expected to play a more active role in maintaining goal progress (Cascio & Shurygailo, 2003). Virtual leaders also need to be highly skilled at handling complexity and paradox, which can be more prevalent in virtual environments where boundaries and roles are less clear (Kayworth & Leidner, 2002).

Transformational/transactional virtual leadership. Much of the research on leadership in a virtual context has been broad and merely outlined general "best practices" for leaders (Gilson et al., 2015). Only recently have researchers begun to empirically test the effects of *specific* leadership styles in virtual environments. However, existing studies have primarily focused on transformational/transactional leadership styles. This does not help advance charismatic leadership theory because charismatic leadership cannot be equated with transformational leadership. Further, very few studies have actually compared the relative effects of leadership styles in virtual and face-to-face contexts (with the exception of three studies by Hambley, O'Neill, and Kline (2007), Hoyt and Blasovich (2003), and Purvanova & Bono (2009), who all examined transformational leadership.[2] It appears that to date, no studies have examined the effects of charismatic leadership in both virtual and face-to-face contexts. Moreover, none have examined the effect of charismatic leadership on *individual* performance in a fully technology-mediated setting.

[2] It is also important to note that these studies (like most virtual leadership studies) have only examined team-level, not individual-level performance, suggesting another gap in the literature.

Another problem with the small body of research examining specific leadership styles in a virtual context is that findings are mixed thus far.3 Of these studies, one suggested that transformational leadership may have consistent effects regardless of virtual context. There was no interaction between leadership style and work group setting (i.e., virtual or face-to-face) when predicting team performance on a word generation task (Hoyt & Blascovich, 2003). Specifically, those working under a transformational leader always had higher qualitative performance and cohesiveness, regardless of whether they were working in a face-to-face or virtual context. Those working under a transactional leader always had higher quantitative performance, regardless of context (Hoyt & Blascovich, 2003). These findings suggest that transformational leadership may be just as effective in a virtual setting as it is in a face-to-face setting.

In another experimental study, the effects of transformational and transactional leadership on team performance were indistinguishable. Hambley and colleagues (2007) did not find a significant effect of leadership style on task performance, nor did they find a significant effect of communication medium (i.e., face-to-face, videoconference, and chat) on performance. The interaction between leadership style and communication medium was also not significant. In other words, teams performed equally well on a group decision-making task, regardless of leadership style or context (Hambley et al., 2007).

Alternatively, some research has suggested that a virtual environment may actually *enhance* the effects of transformational leadership. Transformational leaders may

3 As noted, transformational leadership cannot be equated with charismatic leadership. However, the only available experimental studies have examined transformational/transactional leadership, and thus are reviewed here for the sake of completeness.

be able to inspire followers who are geographically dispersed to work together more effectively and elicit a stronger effect on follower attitudes and behaviors (Joshi et al., 2008). In one study, the effect of transformational leadership on team performance was stronger in a virtual setting than in a face-to-face setting (Purvanova & Bono, 2009). In this study, team leaders were not explicitly instructed to use transformational (or transactional) tactics; instead, leadership behaviors were coded by researchers who unobtrusively observed the leaders throughout the task. Teams worked on a creative idea generation task where performance was measured by quality of the teams' business project proposals. Virtual teams with leaders who exhibited more transformational leadership behaviors performed better on the task (Purvanova & Bono, 2009).

Another study examined transformational and transactional leadership *exclusively* in a virtual context. Results suggested that transformational leaders increased cognitive effort, and transactional leaders decreased cognitive effort exerted by team members working on a decision-making task (Kahai et al., 2013).[4] This study provides further support for the effectiveness of transformational leadership in a virtual context.

Based on the preceding studies, it appears that for certain types of creative or complex task performance (e.g., idea generation), transformational leadership has been effective in a virtual context. However, there does not appear to be support for the relationship between transformational leadership and quantitative task performance. Transformational leadership and charismatic leadership are two distinct leadership styles, but only transformational leadership has been examined in experiments in a virtual

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[4] Cognitive effort was measured with ratings of task difficulty and number of ideas generated by team members, where higher difficulty and fewer ideas generated represented more cognitive effort.

context. Thus, these preliminary findings may provide insights into how we can understand the potential effectiveness of charisma in a virtual context. It is possible that a similar nuanced relationship exists for charismatic leadership, but empirical studies have not yet been conducted to test this claim.

Alternative explanations. How can these mixed findings be interpreted in the light of charismatic leadership? There are at least two potential explanations for how charismatic leader behaviors may affect followers in a virtual context. The first is through the lens of media richness theory (Daft & Lengel, 1986). This theory states that organizations (and individuals) process information to reduce uncertainty and equivocality. Information is processed more effectively when the communication transaction is "rich," because rich communication can be interpreted more easily. Generally, the more auditory and visual cues available, the richer the communication transaction. For example, Daft and Lengel (1986) claimed that face-to-face is the richest form of communication, followed by telephone, and then written documents. Face-to-face communication contains the most cues (e.g. body language, voice, natural language) and allows for efficient processing of complex messages.

In the context of charismatic leadership, media richness theory would suggest that the effect of charisma is weakened in a virtual setting compared to a face-to-face setting. In a virtual setting, (e.g. Skype, teleconference, or instant messenger) the communication transaction is less rich than face-to-face; there are fewer cues available to followers. According to media richness theory, this makes it is more difficult for the receiver to process complex messages (Daft & Lengel, 1986). Charismatic leaders often rely on more complex rhetorical devices (such as anecdotes and symbolic messages) and non-

verbal delivery mechanisms (such as pauses and varied voice tonality) to achieve their effect (Bass, 1990). These features are difficult to convey in a communication medium with limited richness.

One issue with media richness theory is that it has become slightly outdated and narrow in scope; Derosa, Hantula, Kock, and D'Arcy (2004) addressed this by expanding upon media richness theory. They proposed "media naturalness theory" to explain why virtual teams are often less effective in less rich media contexts. They stated that as communication mechanisms become less rich or less "natural" for people, more cognitive effort is required to process information. A key point is that individuals have differing levels of what is considered "natural" communication for them. Some people may be more comfortable with more advanced technologies based on their learning and experience. Having a conversation with a supervisor via webcam may be "natural" and relatively effortless for one employee, and the same conversation may be very "unnatural" and require a lot of cognitive effort from another employee with less technological expertise. Regardless, face-to-face is generally considered the optimal context to interpret complex messages and build trust (Derosa et al., 2004).

The effects of charismatic leadership may be attenuated in a fully mediated virtual environment because it is less "rich" and less "natural" than face-to-face communication. For example, a personal anecdote that is intended to evoke compassion may not be accurately perceived if it is only communicated through an email. Followers may miss key metaphors, voice inflections, and dramatic pauses employed by a leader to achieve a charismatic effect if the communication is mediated by technology. This theory would suggest that leaders are *less* effective communicators in a virtual environment. An

environment with limited cues may make it more difficult for followers to interpret a leader's signals, rendering CLTs less effective.

Another criticism of this paradigm is that media richness theory was proposed before most organizations had the capability to host regular communication via instant messenger, videoconference, and high-quality streaming services. While it is a useful framework for understanding mediated interactions, the effects of charismatic leadership may also be interpreted in a different, more modern light. Because most people today have experience with the internet and associated communication media (e.g., email, text messaging, video calls) the negative effect of media richness on communication may no longer be as salient as it once was 20 or 30 years ago. Recall that some research (specifically, the most recent of the limited studies available) found that the effect of transformational leadership was actually *stronger* in a virtual context than a face-to-face context (Purvanova & Bono, 2009). It is possible that charismatic leadership may also have a stronger effect in a virtual context.

There is a plausible theoretical explanation for this prediction. One of the most highly cited theories of charismatic leadership contends that charismatic leaders achieve their effect by engaging with followers' self-concepts and providing a sense of identity (Shamir et al., 1993). It has also been proposed that charismatic leadership is most effective in times of uncertainty or "weak" situations (Klein & House, 1995; Shamir et al., 1993; Shamir & Howell, 1999). Virtual work environments, especially those in which an employee is isolated from the organization, can create ambiguity (Kirkman et al., 2002; Raghuram et al., 2018). Often, boundaries and responsibilities are less clear for virtual workers (Allen et al., 2015). For this reason, followers may be more receptive to

the stories, vision, and goals articulated by a charismatic leader. In other words, leader signaling in the form of CLTs may be more effective in an ambiguous, virtual environment. The communication medium may not be a hindrance if the technology is relatively familiar to the receiver, and the leader's vision and values sufficiently satisfy the follower's self-concept.

Because there is a lack of empirical data on this relationship, and both theoretical interpretations are plausible, I offer the following research questions to be explored in Study 2:

RQ1: How strong is the effect of Charismatic Leadership Tactics (CLTs) on follower task performance in a virtual context?

RQ2: How strong is the effect of Charismatic Leadership Tactics (CLTs) on follower extra-role performance in a virtual context?

Potential explanatory mechanisms for virtual charisma. It is clear that we do not yet know the efficacy of charismatic leadership in a virtual context; this is the aim of Study 2. Another key area of contribution is investigating the potential explanatory mechanisms for this effect, if it does indeed exist. In Study 3, I explore some potential explanations for the effect of charisma in a virtual environment.

The present definition of charismatic leadership is based upon signaling theory. In the context of signaling theory (in a face-to-face setting), leaders who signal with CLTs are perceived as being "high quality" leaders, and this is believed to influence followers' likelihood of acting in accordance with the leader's goals (Antonakis et al., 2011, 2016). That is, in prior studies where CLTs were experimentally manipulated, followers perceived leaders to be more prototypical, competent, trustworthy, effective, and have higher influencing ability (Antonakis et al., 2011; Awamleh & Gardner, 1999;

Kirkpatrick & Locke, 1996). In addition, followers had higher affect for leaders who exhibited more CLTs (Antonakis et al., 2011). However, there have not yet been empirical tests to determine whether these relationships also hold true in a virtual setting.

Therefore, one of the goals of Study 3 was to explore whether signaling theory is a plausible explanation for the effect of charismatic leadership in a virtual context. That is, do followers perceive CLTs (as signals), and do these signals affect their perceptions of the leader's quality the same way they do in a face-to-face context? (See Figure 1, Box 4.) The following hypotheses are based on previous studies of CLTs that have been conducted in face-to-face studies, (i.e., Antonakis et al., 2011) and are tested in Study 3:

> **H3:** Charismatic Leadership Tactics (CLTs) predict increased perceptions of leader prototypicality.

> **H4:** Charismatic Leadership Tactics (CLTs) predict increased perceptions of leader competence.

> **H5:** Charismatic Leadership Tactics (CLTs) predict increased perceptions of leader trustworthiness.

> **H6:** Charismatic Leadership Tactics (CLTs) predict increased perceptions of leader influencing ability.

> **H7:** Charismatic Leadership Tactics (CLTs) predict increased affect for the leader.

There may also be other theoretical explanations that are unique to technology-mediated interactions with charismatic leaders. For example, another potential theoretical lens to explain the effect of virtual charisma is the hyperpersonal model and social identity/deindividuation model (Fischer & Heracleous, 2012; Spears & Lea, 1994; Walther, 1996). The hyperpersonal model was originally proposed by Walther (1996). This theory was originally used to explain how personal interactions developed within text-only, computer-mediated communication (such as internet chat forums). The model

aims to explain why under certain circumstances, computer-mediated communication can be perceived just as personal, or even more personal than face-to-face communication. According to this theory, people use the limited informational cues available to form perceptions of others, and magnify these cues to exaggerate and confirm perceptions of similarity and identification (Walther, 1996; Walther et al., 2015). In other words, people use the information available to them online to form an "ideal" perception of the other person or people with whom they are communicating. This idealized perception then increases identification with the other person and makes the communication more enjoyable (Walther et al., 2015).

The social identity and deindividuation (SIDE) model (Spears et al., 1990; Spears & Lea, 1994) is related to Walther's hyperpersonal model. This theory proposes that in virtual contexts, feelings of anonymity and isolation lead people to deindividuate themselves and thus become more likely to identify with a leader or message. This effect is particularly salient when the message comes from a person of status. The SIDE model, originating from a communication perspective, proposes that power differentials are reinforced in computer-mediated communication (Spears & Lea, 1994). This can make people more susceptible to conforming with normative behaviors. It is possible that in a virtual leader-follower interaction, where one person clearly has more status, the follower is affected by this phenomenon and becomes even more likely to act in accordance with the leader's goals.

Another goal of Study 3 was to examine whether this theoretical explanation could help explain the effect of charisma in a virtual environment. Thus, I measured followers' perceptions of similarity and identification with the leader, and identification

of a message after viewing a charismatic or non-charismatic speech (see Figure 1, Box 4).

In an isolated environment, followers may feel a heightened sense of similarity and/or

identification with the leader and her message. These heightened perceptions, paired with

the leader's use of CLTs such as sentiments of the collective and moral conviction, may

help explain the effect of leader charisma on follower behavior. Therefore, the following

hypotheses are tested in Study 3.

> **H8:** Charismatic Leadership Tactics (CLTs) predict increased perceptions of similarity with the leader.

> **H9:** Charismatic Leadership Tactics (CLTs) predict increased perceptions of identification with the leader.

> **H10:** Charismatic Leadership Tactics (CLTs) predict increased perceptions of identification of the leader's message.

Note about mediating relationship. The relationship between follower

perceptions and performance (Box 4 to Box 3) was not tested in this study, hence the

dotted line in this section of the model. It has been noted that it is problematic to measure

a mediating variable and a dependent variable at approximately the same time, because

doing so can prime participants to respond differently to the dependent variable

(Podsakoff & Podsakoff, 2019). In other words, it would be problematic to ask

participants to rate their perceptions of a leader and then subsequently have them work on

a task where their performance was measured. Cues about the leader (e.g., competence,

trustworthiness) would be more salient and could influence how participants respond

through their efforts on the task. Therefore, Studies 1 and 2 were conducted on separate

samples to test the independent variable (charisma) to dependent variable (task

performance) relationship, and Study 3 tested the independent variable (charisma) to

potential mediating variables (follower perceptions). Though this approach does not

definitively test a mediating relationship, conclusions can still be drawn about the causal

effects of the independent variable to the outcomes of interest, and it provides

opportunity for future researchers to examine the causal chain relationship.

CHAPTER 2: METHOD

Overview of Experiments

To test the above hypotheses and research questions, I conducted three studies. Study 1 was conducted in a face-to-face context, and Studies 2 and 3 were conducted in a virtual context. Each study had two leadership conditions: charismatic and non-charismatic. Participants were randomly assigned to one of the two conditions. In Study 1, the face-to-face context, participants were exposed to a charismatic or a non-charismatic leader, in person, and then completed a flashcard creation task. In Study 2, the virtual context, participants were exposed to a charismatic or non-charismatic leader via technology-mediated communication (i.e., video) and then completed a worksheet creation task on their own computers. In Study 3, participants viewed a video of a charismatic or non-charismatic leader, and then completed a survey measure to assess their perceptions of the leader. Each study was conducted using a different sample in order to minimize the effects of common source bias (Podsakoff et al., 2012).

Follower task performance was measured by quality and quantity of flashcards created (in Study 1) and by quality and quantity of worksheets created (in Study 2). In both studies, participants were also given the option to complete an additional task. Extra-role performance was measured by participants' performance on the optional task. The results of each study were analyzed individually to assess the effects of charismatic leadership on performance (Hypotheses 1-2 and Research Questions 1-2). In Study 3, follower perceptions were measured with a survey measure in order to test the potential underlying mechanisms of the effect of charisma (Hypotheses 3-10).

Open Data and Materials

Studies 1 and 2 were preregistered on the Open Science Framework (www.osf.io/).5 All materials, data, and analytic code will be made available upon submission of the manuscript to a journal, and a transparency checklist will be completed.

Study 1: Face-to-Face Context

Participants. I conducted a power analysis using G*Power to determine the number of participants needed to detect a medium effect size ($d = .5$) of charismatic leadership on follower performance. (The d value of .5 corresponds to observed effect sizes in previous experimental manipulations of charismatic leadership; Antonakis et al., 2015.) The analysis suggested that I would need 64 participants per group (128 total) to detect this effect size at a level of .80 power, with an alpha value of .05.

Participants were recruited from the University of North Carolina at Charlotte, via in-class announcements, flyers posted on campus, and an email listserv announcement. Both undergraduate and graduate students were eligible to participate. Participants signed up in advance for pre-scheduled sessions using an online signup website. The typical show rate was 75-85% (usually, one or two people of the ten who signed up did not attend the session). In total, 154 participants signed up and 123 attended their experimental session. There were 60 participants in the control group and 63 in the experimental (charisma) group. One participant had to be removed from each group due to being late to the study and failing to follow basic instructions to complete the task. Of the 121 remaining participants, 47 were male and 73 were female (one did not complete

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5 Study 3 and the associated hypotheses were not formally pre-registered on the OSF, but were introduced after the official dissertation proposal and prior to beginning data collection.

the follow up survey, therefore I did not collect demographic information on this individual). There were 89 undergraduates and 31 graduate students. The average age was 21.26 years ($SD = 3.64$) and the racial/ethnic breakdown was as follows: White (35.8%), Asian (32.5%), Black (20.5%), Other (9.20%), and American Indian/Alaska Native (2.50%).

Incentive. All participants were compensated financially for their time. Each participant received a $15 Amazon gift card, sent via email in exchange for approximately one hour of participation and an optional 15 minutes of additional work. This amount was selected because it corresponds with a median hourly wage in North Carolina for a relatively unskilled job (*Employment and Wage Estimates*, 2018), and also accounted for time it may have taken for participants to travel to and from the study location. Participants received the full gift card amount regardless of their performance or choice to partake in the optional task.

Procedure. Participants signed up online for a pre-determined time slot to participate in the face-to-face study. They reported to a designated location in the library at the university's main campus. Participants signed up in groups of approximately 8-10 at a time to due to space limitations in the room in which the study was conducted. Upon arrival, participants checked in with the researcher and were seated at a table with all of their task materials (see Appendix on the OSF preregistration for a photo of experimental materials). They signed informed consent forms and were given the option to keep a copy for themselves. When it was time to begin, the primary researcher read aloud general instructions for the task, and each participant generated a unique code to anonymously identify their work and link it to their follow up survey data.

After the researcher provided general instructions, a trained actress (who was portraying the leader) delivered either the charismatic or the non-charismatic speech. The speech covered information about the collaborating charitable organization and further instructions for the flashcard task (see Appendix A for both versions of the speech.) When read aloud, the speech was approximately four minutes long. Once the speech ended, participants took their materials and were escorted to another floor of the library where they worked independently on the flashcard task for 45 minutes. Participants were instructed to spread out among the tables in the library and refrain from talking to other people (including those participating in the study) and avoid using cell phones or laptops while working on the task. Once seated, the participants were told to start their pre-set 45-minute digital timers and begin the task. The leader and researcher left the room in order to avoid unwanted demand effects (Lonati et al., 2018).

Shortly before the 45 minutes was up, the leader re-entered the room to privately notify each participant that they could complete an optional task if they were willing. She dropped off the additional task materials and informed participants that they would have an additional 15 minutes to work on the optional task if they wished (additional materials and another timer were provided). Participants were notified that they would receive their full payment regardless of their decision to work on the extra task. Once finished, participants returned their task materials to the research assistant in the first room where they originally checked in. Participants were thanked and told that they would receive a link later that day to complete a follow-up survey via email. In the follow-up survey, participants entered their unique ID code to link their survey to their performance data, and provided their demographic information and email address, which was used to send

their electronic gift card. The participants were asked to complete the follow up within one week of participating in the study.

      Leadership manipulation. An experienced actress was recruited to play the role of the leader. The actress was a young adult female with diverse professional acting experience; she was trained at a prestigious acting school in the United States and has performed professionally in both domestic and international theatricals. Following previous standards (Antonakis et al., 2015), the actress underwent rigorous training which included readings (academic and non-academic articles), videos, and discussions about charismatic leadership and CLTs. The training lasted a total of approximately five hours.

      The actress memorized two different versions of the speech. In the non-charismatic condition, the speech contains fewer verbal CLTs and the leader was not overly animated or enthusiastic in her delivery. In the charismatic condition, the word count is comparable, but the speech contains more verbal CLTs. This speech was delivered with more nonverbal CLTs, such as using a more animated voice tone and hand gestures when reciting the speech.[6] The speeches were adapted from another experimental study of charismatic leadership (c.f. Antonakis et al., 2015)[7] and

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[6] In this study, a "baseline" non-charismatic condition is compared to a charismatic condition, rather than comparing a more distinct, negative form of leadership to charismatic leadership. I am interested in isolating the effects of charisma above and beyond a standard speech delivery, and intentionally do not compare the charismatic speech to a negative delivery. Such practice has been compared to assessing the effects of medicine vs. poison and is not informative for theory or practice. See Lonati, Quiroga, Zehnder, and Antonakis (2018) for a more detailed discussion of this issue in leadership research.

[7] In Antonakis and colleagues' (2015) study, objective and subjective manipulation checks suggested that the original speech content was validated and elicited stronger perceptions of charisma in the charismatic speech. The researchers also found that after viewing the charismatic speech, followers performed better on an envelope-stuffing task.

manipulation checks were conducted to ensure the charismatic speech contained more CLTs than the control speech.

Manipulation checks. Several manipulation checks were conducted to ensure the experimental speech contained more charismatic signals (i.e., CLTs) than the control speech. First, an objective check was done in which trained human raters (including the primary author, one of the co-authors, and another graduate student studying charismatic leadership) coded the speech transcripts for CLTs. The coders received a coding guide with definitions and examples of CLTs to score the speech scripts. The human raters coded an average of 21.33 CLTs in the control speech and an average of 33.33 CLTs in the charismatic speech. There was acceptable agreement between the primary author and coder 1 (Cohen's kappa = .59) and coder 2 (Cohen's kappa = .74). The second objective manipulation check involved feeding the speech transcripts into a proprietary natural language processing algorithm that is currently being developed to code speeches and other written content for CLTs (Garner et al., 2019). The algorithm detected 17.53 CLTs in the control speech and 26.27 CLTs in the charismatic speech. These checks support that there were objectively more CLTs in the charismatic speech than the control speech.

A subjective manipulation check was also conducted to determine if followers' perceptions of the leader differed by condition. One hundred and forty-five participants were recruited from undergraduate classes at UNC Charlotte. There were 79 in the control group and 66 in the experimental group. Participants viewed a video of the leader delivering the speech, and then provided ratings on three dimensions the Multifactor Leadership Questionnaire. There is still no validated measure of charismatic leadership that aligns with the current definition from Antonakis et al., (2016); therefore, I used the

three dimensions, Idealized Attributes, Idealized Behaviors, and Inspirational Motivation, that have historically been used as a proxy for measuring charismatic leadership (Avolio & Bass, 2004; Banks et al., 2017).[8] The results from this check suggested that there were no significant differences across conditions on any of the MLQ subscales (p's > .05). The mean of the three subscales was 4.09 ($SD = 0.46$) (on a 5-point scale) in the control condition, and 4.13 ($SD = 0.66$) in the experimental condition. Although this suggests that follower perceptions did not differ by condition, the MLQ is an imperfect measure of charisma and I decided to continue with the speeches because they received support in the two objective manipulation checks, and very similar speeches have been found to produce follower effects in other studies (Antonakis et al., 2015).

Work task and performance measure. After participants listened to the speech, they worked on a flashcard creation task for 45 minutes.[9] Participants were provided with templates from a local organization which collects academic supplies to help students and teachers in school systems lacking resources (https://www.classroomcentral.org/). The template clearly displays what each flashcard should look like, with numbers and dots numbered from one to ten (see Appendix B for the template.) Participants were given a stack of 200 blank index cards, three colored markers, and 20 plastic sandwich bags to store completed sets of flashcards.[10]

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[8] As previously noted, it has been well-established that the MLQ is problematic for measuring charisma because it was originally designed to measure transformational leadership.

[9] Upon acceptance to a journal, the flashcards from this study will ultimately be donated to an elementary school though a local nonprofit organization.

[10] The time limit and amount of materials required was determined through pilot testing before the study was launched. In a pilot test, participants worked on the task for 20 minutes and completed an average of about 5 flashcard sets. Therefore, I estimated that in 45 minutes, participants would complete an average of around 10 sets. We supplied each participant with enough materials to complete 20 sets to ensure they would not run out of materials during the study.

Task performance was measured by the number of complete flashcard sets created in the allotted time. A complete set of flashcards is made up of ten cards that are numbered from one to ten, each with the correct corresponding illustration (i.e., the correct number of dots.) For example, the "one" card has the number 1, the word "one", and one dot drawn on it. The "two" card has the number 2, the word "two", and two dots, and so on. Each completed set was placed in a plastic bag and labeled by participants. All completed flashcard sets were then placed in a manila envelope containing the participant's ID number to keep their materials together.

Performance on this task was also evaluated for quality. Quality of the work was measured by whether participants accurately followed the template (e.g., used the correct orientation of the card, drew the correct number of dots) and produced work that was neat and legible. Each participant received a quality score from 1 to 5, where scores of 1 and 2 were poor quality to the extent that they were not donatable, scores of 3-4 had one or two minor errors and may be sloppy (but still usable), and scores of 5 were very neat and did not have any errors.

The primary researcher and two other research assistants (who were blind to the condition) helped score the flashcards for quantity and quality. The research assistants coded a subset of the flashcards together to gain consensus, and then split up the remaining flashcard sets to score them independently. Because the coders were working in the same room, any uncertainties were settled with input from the coding team.

Optional task and extra-role performance measure. The extra task was another flashcard task, but was based on a different template from the same charitable organization (see Appendix C for the template). In this task, participants were asked to

create sets of six flashcards that had shapes (circle, square, star, rectangle, heart, triangle) on them, instead of numbers. They were given an additional 75 blank index cards, 10 plastic bags, and two more colored markers for this task.

If participants chose to stay and participate, they worked on the extra flashcard task for 15 minutes. First and foremost, I was interested in whether participants would stay and perform the extra task (i.e., yes/no). For those who did complete the task, the quantity and quality of their work was assessed. Again, the research team counted the number of extra flashcard sets completed and scored the overall quality of their work. Both of these measures were used to assess follower extra-role performance. By definition, the completion of this task was over and above the contracted task.

Follow-up survey. Once they finished the task(s), participants returned their materials to the research assistant. Later that day, participants were sent an email containing a link to the follow-up survey. (See Appendix D for the follow-up survey.) This survey collected basic demographic information, including age, gender, student status, and race/ethnicity. The follow-up survey also contained nine items from the GLOBE scale (House et al., 2004) with four items measuring collectivism and five items measuring power distance. While not a focus of this work, this study will be part of a larger series of studies examining charismatic leadership across different cultures. Because the samples are only being collected in the United States, the cultural variables were not expected to affect the results and were not analyzed in this study. Lastly, participants entered their names[11] and email addresses where they wanted their electronic Amazon gift card to be sent.

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[11] First and last names had to be collected to meet university accounting requirements.

Participant identification code. To anonymously link the participants' performance data to their follow up survey data, all participants generated a random identification code when they arrived at the study site. The code was written on their experimental materials (the envelope in which they put all completed flashcards) and was generated again in the online follow-up survey. This allowed us to connect the two data points without identifying the participants.

Study 2: Virtual Context

Participants. As in the first study, the power analysis suggested that I needed a total of 128 participants with 64 in each condition to detect a medium effect size ($d = .5$) of charismatic leadership on performance, at a power of .80 with an alpha value of .05. To recruit participants, I sent an email announcement using the university's "research study announcement" listserv. Participants provided their name and email address in a Google form if they were interested in participating. After receiving contact information from 261 interested participants, the first 128 on the list were sent an email with details on how to participate (See Appendix E for the email invitation.) The participants names and email addresses were cross-checked with the participants in Study 1 to ensure there were no duplicates.

Because Study 2 was conducted entirely virtually, participants could complete the study at any time and place of their choosing. They were given a two-week window to complete the task before I reached out to the next participants in the waitlist. A total of 134 individuals participated the study, but six individuals exited the study after completing the main task. Their data were still analyzed for the main task performance, but not for the extra-role task (I also was not able to measure the demographic

information of these participants). There were 66 participants in the control group and 68 in the experimental group. Of those who completed the demographic questionnaire at the end of the study, there were 30 men, 95 women, and 3 participants who selected "Other" on the gender question. Similarly to Study 1, the majority of participants (83) were undergraduate students, and 45 were graduate students. The average age was 23.29 years ($SD = 7.05$) and the racial/ethnic breakdown was as follows: 43.3% White, 25.2% Asian, 20.5% Black, 10.2% Other, and .08% American Indian/Alaska Native.

Incentive. All participants received $10 electronic Amazon gift cards in exchange for approximately one hour of work and an optional 15 minutes of additional work. This amount is still comparable to a median hourly wage for an unskilled job but is slightly less than the incentive in the face-to-face study because participants were not required to schedule a time slot or travel to a specified location. Participants received the full gift card amount regardless of their performance on the task or choice to partake in the optional task.

Procedure. The procedure in Study 2 was very similar to Study 1, except that all materials (including the leader speech) were accessed via a computer. Participants were notified that in order to participate in the online study, they had to complete the entire task in one sitting, use a laptop or desktop computer, and have working audio via speakers or headphones. Upon beginning the study by opening a Qualtrics link, participants were randomly assigned (by Qualtrics' randomizer) to either the control condition or the experimental condition. Participants were not aware of which condition they were assigned to.

Once participants accessed the website and provided consent to participate in the study, they viewed written instructions about the task they would be working on (see Appendix F). This task involved creating study sheets for students by putting vocabulary words into crossword puzzles. Next, the participants viewed a video of a desktop screen recording, narrated by the researcher, which explained and demonstrated how to complete the virtual task. After viewing the task demonstration video, participants viewed a video of the trained actress delivering a speech about the task and the charitable organization.[12] The participants only viewed either the charismatic or the non-charismatic speech, depending on which condition they were randomly assigned to. In order to ensure that participants watched the videos, I included a feature in the survey that would not allow participants to advance to the next page until the duration of the video had passed.

Participants then worked on the study sheet task for 45 minutes. There was a 45-minute countdown timer visible to participants, and when the time was up the web page automatically advanced. Participants then viewed another brief video of the leader, which was identical across conditions. In this video, the leader informed participants that they had the option to complete an additional task if they would like to, or they could conclude their participation. The extra task also involved creating study sheets, but the sheets were composed of word search puzzles instead of crossword puzzles. Again, the participants were notified that they would still receive their full payment ($10 Amazon gift card) for their time regardless of whether or not they complete the extra task.

[12] The leader describes a fictitious organization called "Study Sheets for Success." To my knowledge, there were no organizations that existed that had a similar mission, so this initiative was created to mirror the face-to-face procedure.

The participants chose to either complete the extra task or move to the end the survey. Participants who chose to complete the extra task viewed another demonstration video narrated by the researcher explaining how to do the optional task, and then worked for 15 minutes before moving on to the final portion of the survey. If they chose not to complete the extra task, they were directed to the final portion of the survey. Upon completion of the task(s), the participants completed a brief informational survey (the same follow-up survey that was distributed in Study 1). The survey gathered the same demographic information: age, gender, race/ethnicity, and cultural perceptions. Participants entered their names and email addresses to receive their $10 Amazon gift card.

Leadership manipulation. The leadership manipulation is very similar to the manipulation in Study 1, and the same actress was used in the videos. The speech used for the flashcard task in Study 1 was adapted slightly to fit the virtual worksheet task (e.g., replacing "Classroom Central" with "Study Sheets for Success" and replacing "flashcards" with "study sheets", but the general structure and sentiment of the speech is the same. See Appendix G for both speeches. The actress was recorded reading the speech in a professional studio. In the control condition, she spoke in a relaxed voice tone and did not use overly animated facial expressions or gestures. In the charismatic condition, the speech contained more CLTs and the actress used a more animated delivery including pauses, hand gestures, and raising and lowering her voice (see Appendix H for a snapshot of each video). The non-charismatic speech video was 3 minutes and 18 seconds long and the charismatic speech video was 3 minutes and 53 seconds long.

Work task and performance measure. Participants worked on a task in which they created study sheets for elementary school students. Participants were given a list of vocabulary words which were taken from reading samples on a North Carolina standardized test preparation website (http://www.ncpublicschools.org/accountability/testing/eog/sampleitems/reading). The participants were instructed to look up the definitions of the words in the Merriam-Webster's Learner's Dictionary, and then paste the words and definitions into a crossword puzzle generator using the free website, EdTools (http://edtools.mankindforward.com/crosswords). Participants were told to create crossword puzzles that contained between 15-20 words. This range was given because depending on the combination of words, some words did not fit into the crossword puzzle. The "clue" in the crossword puzzle was the dictionary definition, and the answer was the vocabulary word which fits in the puzzle. See Appendix I for a sample completed crossword puzzle.

When participants finished entering the input for the crossword puzzle (15-20 words and their definitions) they generated a unique link to the worksheet. Participants entered this link into Qualtrics, and then began working on the next puzzle. While they worked, participants were able to view an online countdown timer within Qualtrics so they were aware of how much time they had remaining. When the time was up, the page automatically advanced.

Similarly to Study 1, task performance was measured by counting the number of study sheets (crossword puzzles) participants created. I also assessed the quality of their performance by checking the extent to which they followed instructions provided for the

task, and each participant was given a quality score from 1-5. Participants were instructed to use between 15-20 words, add a title to their puzzles, and use a variety of words from the list (e.g., not just select the first 15 words in alphabetical order). A quality score of 5 meant that participants followed all instructions perfectly, and a 4 indicated that there were one or two minor errors. A score of 3 represents work that had multiple errors (such as including less than 15 words in all of their puzzles) and a score of 2 meant there were many mistakes and/or missing steps. A score of 1 meant the participants simply did not complete the study sheets or used the wrong words altogether. The researcher and one other team member coded the quality of the participants' study sheets.

Optional task and extra-role performance. The extra-role task also involved creating study sheets, but in this task, participants created word search puzzles instead of crossword puzzles. This only required the participants to enter the words, not the definitions into the online tool. Participants who opted to do the extra task were given a new set of vocabulary words with definitions, which were taken from materials posted on a local school district's webpage (https://www.iss.k12.nc.us/). Participants were instructed to only select words that were at least five letters long, and enter these words into the word search puzzles. A complete word search contained between 15-20 words. These study sheets were also generated with the free website, EdTools (http://edtools.mankindforward.com/word_searches). Once a worksheet was complete, participants generated a unique link for each study sheet and entered the link into the Qualtrics survey. See Appendix J for a sample of a completed word search puzzle. If participants chose to complete this task, they were given 15 minutes to work on it. As in

Study 1, I was interested in whether they chose to stay and do this task (yes/no), and also assessed the quantity and quality of the work produced in the extra time.

Follow-up survey. Once they finished the task(s), participants completed the same follow-up survey as the participants in Study 1. Because the participants were already participating in an online survey, they did not need to be emailed a separate link. This survey collected the same basic demographic information and same nine items from the GLOBE scale (House et al., 2004). Lastly, participants entered their name and email address where they wanted their electronic Amazon gift card to be sent.

Study 3: Exploring Virtual Charisma

Participants. Using the same power analysis guidelines as Study 1 and Study 2, I aimed to collect a total of 128 participants with 64 in each condition. Participants were recruited via Amazon's Mechanical Turk (MTurk). The only restrictions were that participants had a HIT pass rate of at least 80% and lived in the United States. I collected data in batches using the MTurk platform and ended up with 148 participants. I rejected 14 participants for failing the attention check question or completing the study in less than the minimum required time to ensure they viewed the entire video and responded to each question. I rejected an additional 5 participants who completed the study a second time (but kept their first response). I was left with 129 usable responses with 64 in the control condition and 65 in the experimental condition. There were 44 male, 84 female, and 1 non-binary/third gender participants. The average age was 36.96 years ($SD = $ 11.87) and the racial/ethnic background was as follows: 77.52% White, 11.63% Black, 4.65% Asian, and 6.20% Other or Mixed.

Incentive. In Study 3, participants received $1 each for the roughly five-minute task involving answering survey questions on MTurk. Participants were paid through the Mturk platform and received their compensation within three days of responding to the survey.

Procedure. Participants signed up via the Mturk worker platform. Once they began the study, participants viewed one of the two videos: the charismatic speech or the non-charismatic speech.13 They were randomly assigned to one of the conditions with Qualtrics' randomizer. After viewing the video, participants responded to survey questions about their perceptions of the leader and the speech. Finally, the participants answered basic demographic questions about themselves. In total, the time to complete the study was about five to ten minutes.

Measures. The outcome variables measured in this survey were leader prototypicality, "leader outcomes" (comprised of affect, trustworthiness, competence, influencing ability), similarity, identification with the leader, and identification of the message. Scales were borrowed from previous studies, and adaptations are described below.

Leader prototypicality was measured with the same three items used in Antonakis and colleagues' (2011) study, with minor modifications.14 One item was modified to reflect that the participants were rating the leader based on a one-time perception, rather than rating a leader with whom they have regular interactions (as they did in the original study). Specifically, "The person I am rating frequently demonstrates leader behavior"

13 The same exact speeches used in Study 2 were used in this study.
14 Antonakis and colleagues adapted these three items from Cronshaw and Lord's (1987) leader prototypicality measure.

was adapted to "The person I am rating demonstrates leader behavior." This change was made in order to avoid confusion for the participants. The other two items were "The person I am rating acts like a typical leader," and "The person I am rating fits my image of a leader." These items were previously rated on a scale from 0 (Strongly Disagree) to 8 (Strongly Agree), and they were adapted to be rated on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree). It has been noted that it is generally acceptable to change the number of response options when the wording of the anchors remains similar (Heggestad et al., 2019).

The four leader outcomes measures were single-item measures, also adapted from Antonakis and colleagues' (2011) study with minor modifications. Wording changes were made to two of the items to reflect the one-time perception of the leader. Specifically, for leader competence, "The person I am rating is competent as a leader" was adapted to "The person I am rating would be competent as a leader." For influencing ability, "The person I am rating is easily able to influence others" was modified to "The person that I am rating would be able to easily influence others." These items were also changed from their original 0 to 8 scale to a 1 to 5 scale, still ranging from "Strongly Disagree" to "Strongly Agree."

A seven-item measure of identification with the leader was adapted from Shamir and colleagues' (1998) study. The wording of the items was modified so the gender of the subject matched our study (the scale was originally used in a study of military groups with male leaders). For example, "I respect him" was changed to "I respect her." In addition, the wording of three items was modified slightly to more appropriately reflect the context of this study, as opposed to a military context. For example, "I am proud to be

under his command" was changed to "I am proud to follow her instructions." The wording of the response scale anchors were also adapted to reflect the single-interaction nature of the study, originally ranging from 1 (Never) to 5 (Always), adapted to range from 1 (Strongly Disagree) to 5 (Strongly Agree).

On the similarity to leader and identification of the message scales, there were no adaptations to the wording of items. The measure of similarity was borrowed from Blanchard, Caudill, and Walker's (2020) paper. The four items to measure similarity with the leader are, "We are alike," "We have similar attitudes," "We have similar values," and "We see things much in the same way." Two items from Rosenberg and Hirschberg's (2009) paper were used to measure identification of the message. The two items are "I agree with the speaker" and "The speaker's message is clear." Only the response scales were modified for these items. For the similarity measure, the previous response options were 1 (Strongly Disagree) to 7 (Strongly Agree) and for the identification of a message measure, the previous response options were 1 (Disagree Completely) to 5 (Agree Completely). Both were adapted to a scale from 1 (Strongly Disagree) to 5 (Strongly Agree) for consistency with the other scales. See Table 2 for all original and adapted items.

Follow-up survey. The final section of the survey included one attention check item ("The leader talked about creating study sheets:" True/False). It also included demographic questions that were identical to those used in Study 1 and Study 2, except this version of the demographic survey did not include items on student status.

CHAPTER 3: RESULTS

Data Preparation and Screening

All the data were entered into Excel csv files. For Study 1, this required entering the participants' ID codes and scores for the flashcard sets they created. Each participant received four scores: a quantity and quality score for the main task, and a quantity and quality score for the optional task. The participants' materials were scored by hand and the scores were manually entered into a .csv file. The participants' data for the follow-up survey in Qualtrics were matched to the ID code generated in the face-to-face experiment.

For Study 2, all data were collected online through Qualtrics. I exported the Qualtrics survey and added a column to count the number of study sheet puzzles submitted in each task. Quality scores were manually entered. Again, participants received four scores: a quantity and quality score for the main task, and a quantity and quality score for the optional task. The follow-up survey data were already linked to the participants' performance data since they were attached to the same survey in Qualtrics. For Study 3, all the data were also collected with Qualtrics.

Once the data were exported, I screened for invalid responses. In Study 1 (the face-to-face study) two participants' performance data were adjusted manually. One participant had to leave five minutes early due to a scheduling conflict, so their performance score was adjusted based on their performance for the first 40 minutes[15].

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[15] I calculated the rate of work completed in 40 minutes and extrapolated this number for a performance that would have been completed in 45 minutes. The participant completed 10 flashcard sets in 40 minutes (4 minutes per set). I adjusted their score to 11, the number of sets that would be completed in an additional 5 minutes of work.

Another participant opted to stay for the extra 15 minutes but continued working on the main task instead of doing the additional task (they informed the researcher of this after they completed the task). Their score was adjusted to only account for 45 minutes of work on the main task.[16]

To screen responses in Study 2 (the virtual study) I compared the email addresses to the data from Study 1 to check for any duplicates and remove any participants who had already participated in the first study, or who attempted to complete the virtual study more than once. There was one duplicate response removed. I only included participants that completed the minimum work requirement of 45 minutes on the first task. Four participants finished the main task, but then exited the survey, and two more finished the main task, chose the option to "Continue" and participate in the extra task, but then exited the page. These participants were included in the analyses of task performance only.

In Study 3, participants were screened for completion of the survey and passing the attention check. Originally, 148 responses were collected. I rejected five participants who participated in the study more than once (and retained only their first response). I rejected an additional 14 participants for insufficient attention in their response, either because they failed the attention check question, or completed the survey in under the minimum required time. The minimum required time was calculated by adding the time required to watch the video plus a minimum of two seconds to respond to each survey item. Of the remaining usable responses, there were five participants who each had one missing data point. Two were missing responses to the leader affect item and one was

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[16] This participant completed 10 flashcard sets in 60 minutes (6 minutes per set). To adjust their score, I divided the allocated work time (45 minutes) by their time per set (6 minutes) for a total of 8 sets. Their score on the main task was adjusted to 8.

missing a response to the trust in leader item. Because these were single-item measures, no values were imputed. Two additional participants were each missing a response to one of the identification items. Their averages were computed without this data, based on responses to the other six items.

Study 1 Results

To test Hypothesis 1, that CLTs predict increased follower task performance, I conducted an independent samples t-test. This hypothesis was supported. Those in the charisma condition ($M = 11.40$, $SD = 4.06$) had significantly higher task performance than those in the control condition ($M = 9.49$, $SD = 3.36$), $t(116.79) = -2.83$, $p = .01$. Cohen's d was -.51 and the confidence interval did not include zero, indicating a medium to large significant effect. See Figure 2 for a bar chart displaying these results. On average, those in the charisma condition created roughly two additional sets of flashcards in their allotted 45 minutes. Despite this increase in quantity, there was no significant difference in the quality of the flashcards across conditions $t(118.99) = 0.82$, $p = .41$, Cohen's $d = .15$ (confidence interval included zero). The average quality score (on a 5-point scale) was 3.90 ($SD = 1.13$) in the charisma condition and 4.07 ($SD = 1.08$) in the control condition. In other words, participants were more productive without sacrificing the quality of their work.

To test Hypothesis 2, that CLTs predict increased follower extra-role performance, I conducted a binary logistic regression. This hypothesis was not supported. In the control condition, 14 of 59 (23.73%) chose to complete the extra task, and in the charisma condition, 23 of 62 (37.10%) chose to complete the extra task. The results of the binary logistic regression indicated that this was not a statistically significant difference

between the conditions. (b = .63, p = .11). I also conducted an independent samples t-test to determine if the quantity of extra-role performance on the extra task differed by group. When all participants were included in the analysis (both those who did and did not decide to participate in the extra task), performance on extra-role task performance did not significantly differ by group $t(117.97)$ = -1.11, p = .27, Cohen's d = -.20 (confidence interval included zero). The control group produced an average of 1.14 sets (SD = 2.49) on the extra task and the charisma group produced an average of 1.68 sets (SD = 2.87). Of the 14 control group participants who completed the additional task, their average quality score was 4.14 (SD = 0.77); of the 23 charisma group participants who completed the additional task, their average quality score was 3.52 (SD = 1.41). This was not a large enough sample size to conduct a significance test. Thus, although there was a 56.3% increase in the number of participants who opted to complete the extra task in the charisma condition, the difference was not statistically significant at an alpha level of .05.

Study 2 Results

To address Research Question 1, which asked "How strong is the effect of CLTs on follower task performance in a virtual context?", I conducted an independent samples t-test. Results suggested that there was no significant difference in quantitative performance on the main work task between the control and charisma groups, $t(129.29)$ = 0.12, p = .91. Cohen's d was .02 (a negligible effect size) and the confidence interval included zero, indicating no significant effect. Thus, there appears to be no effect of CLTs on follower task performance in a virtual context. Participants in the charisma condition (M = 3.06, SD = 1.51) did not have statistically different task performance than participants in the control condition (M = 3.09, SD = 1.69). Regarding quality

performance, there was no significant difference in the quality of the worksheets across conditions $t(123.4) = -0.31$, $p = .76$, Cohen's $d = -.05$ (confidence interval included zero). The average quality score (on a 5-point scale) was 4.31 ($SD = 0.97$) in the control condition and 4.36 ($SD = 0.93$) in the charisma condition. In other words, neither quantity nor quality of work was affected by the leadership manipulation.

To address Research Question 2, which asked "How strong is the effect of CLTs on follower extra-role performance in a virtual context?", I conducted a binary logistic regression. There was no significant difference in participants' decision to participate in the extra-role task ($b = -.15$, $p = .66$). In the control condition, 32 of 63 (50.79%) chose to do the extra task, and in the charisma condition, 31 of 66 (46.97%) chose to do the extra task. This suggests there was no effect of CLTs on follower extra-role performance in a virtual context. I also conducted an independent samples t-test to determine if the quantity of extra-role performance on the extra task differed by group. When all participants were included in the analysis (both those who did and did not decide to participate in the extra task), performance on extra-role task performance did not significantly differ by group $t(127) = -0.19$, $p = .85$, Cohen's $d = -.03$ (confidence interval included zero). The control group produced an average of 1.87 word search puzzles ($SD = 2.35$) on the extra task and the charisma group produced an average of 1.95 word search puzzles ($SD = 2.45$). Regarding the quality, there was no significant difference in the quality of work done in the extra task. Of the 32 control group participants who completed the additional task, their average quality score was 4.45 ($SD = 0.83$); of the 31 charisma group participants who completed the additional task, their average quality score was 4.59 ($SD = 0.73$). Although the sample size is small, the quality was not

significantly difference across the conditions $t(55.19) = -0.67$, $p = .50$, Cohen's $d = -.17$ (confidence interval included zero).

Regarding extra-role performance, it is also interesting to note that about one-third of participants opted to complete the extra task in Study 1, and about one-half of participants opted to complete the extra task in Study 2. Although it was not hypothesized, I expected that extra-role task participation rates in the virtual experiment would be lower, considering the extensive literature on cyberloafing and employees' tendency to take advantage of the internet for personal use while at work (Blanchard & Henle, 2008; Lim, 2002). Participants in the virtual study were in a completely isolated environment without direct oversight from the researcher or leader, so there was less of a social demand to complete the extra task (i.e., they could choose to exit after the main task was finished and no one would see them do it). However, this decision was similar across the control and charisma conditions, so it appears their decision to participate in the extra task was not affected by the CLTs used in the speech.

Study 3 Results

Descriptive statistics for the main study variables can be found in Table 3. All of the outcome variables were significantly correlated with each other ($p < .05$), and the correlations ranged from .42 to .82. The identification with leader scale had the strongest correlations with other variables, and the identification of the message scale had the weakest correlations. To test Hypotheses 3-10 in Study 3, I conducted a series of independent samples t-tests to determine whether the groups differed in their perceptions of the leader. A summary of the results is presented below and can be found in Table 4.

Hypotheses 3-7 measured outcomes related to signaling theory, and these were partially supported. Hypothesis 3 stated that CLTs predict increased perceptions of leader prototypicality, and this was supported. Leader prototypicality was significantly higher in the charisma condition ($M = 4.19$, $SD = 0.70$) than the control condition ($M = 3.92$, $SD = 0.81$), $t(123.55) = -2.05$, $p = .04$. Hypothesis 4 stated that CLTs predict increased perceptions of leader competence, and this hypothesis was also supported. Leader competence was significantly higher in the charisma condition ($M = 4.45$, $SD = 0.75$) than the control condition ($M = 4.08$, $SD = 1.00$), $t(117.06) = -2.37$, $p = .02$. Hypothesis 5 stated that CLTs increase perceptions of leader trustworthiness, and this was not supported $t(125.92) = -1.29$, $p = .20$. Hypothesis 6 stated that CLTs predict increased perceptions of leader influencing ability, and this was supported. Leader influencing ability was significantly higher in the charisma condition ($M = 4.31$, $SD = 0.81$) than the control condition ($M = 3.91$, $SD = 0.99$), $t(121.51) = -2.52$, $p = .01$. Lastly, Hypothesis 7 stated that CLTs predict increased affect for the leader, and this hypothesis was not supported $t(124.93) = -0.73$, $p = .46$.

Next, I tested Hypotheses 8-10 which were related to the hyperpersonal model and social identification/deindividuation model. These hypotheses were not supported. Hypothesis 8 stated that CLTs increase perceptions of similarity with the leader, and this was not supported $t(126.22) = -1.55$, $p = .12$. Hypothesis 9 stated that CLTs predict increased perceptions of identification with the leader, and this was not supported $t(121.72) = -1.18$, $p = .24$. Lastly, Hypothesis 10 stated that CLTs predict increased identification of the leader's message, and this was also not supported $t(126.57) = -1.17$, $p = .24$.

CHAPTER 4: DISCUSSION

Philosophers, politicians, and researchers have been fascinated by charismatic leadership for centuries (Antonakis et al., 2016; Bass, 1990). Charisma is unique because unlike many leadership constructs, it is a concept that most people outside of the field are familiar with. In addition to being one of the most commonly studied leadership styles in management and applied psychology (Lord et al., 2017), articles on charismatic leadership regularly appear in popular practitioner magazines such as Harvard Business Review, Forbes, and Inc (cf., Antonakis et al., 2012; Cantero-Gomez, 2019; Cohan, 2019; Kellerman, 2009). Becoming a charismatic leader is a unique skill set that all kinds of people are interested in obtaining. There is a large body of academic literature that supports the relationship between charisma and favorable outcomes such as individual, group, and organization-level performance (Antonakis et al., 2016; Banks et al., 2017). However, there are still substantial gaps in our understanding which I have begun to address with this paper.

The first major contribution of this work is that it provides evidence that charisma can, in fact, be trained. Initially, charisma was thought to be a mysterious characteristic possessed by only a select few leaders (Weber, 1947; Willner, 1984). However, the definition of charisma has evolved in a way that allows us to study it with a more scientific approach (Antonakis et al., 2016; Banks et al., 2017). The present studies build upon the small, but growing body of literature showing that charisma is a trainable, observable set of behaviors that can be developed and enacted by any kind of leader (Antonakis et al., 2015, 2016).

Another key contribution is that I conducted a strong test of charismatic leadership theory (Antonakis et al., 2014). I did this by experimentally examining whether CLTs caused an increase in follower performance in two different contexts: face-to-face and virtual interactions. In the field of management, the majority of theories are never actually tested empirically (Antonakis, 2017), which severely limits progress in our understanding and ability to apply theory to solve real-world problems. While there have been some tests of charismatic leadership theory, there is only a limited body of research that adequately demonstrates the *causal* effects that charisma has on important organizational outcomes (Banks et al., 2017). Further, charismatic leadership has not been studied in a modern organizational context in which leaders and followers interact virtually. Therefore, this work makes an important contribution to charismatic leadership theory because it allows us to make causal claims about specific, observable leader behaviors (rather than just perceptions) and mitigates concerns of endogeneity bias that plague much of the existing leadership literature (Antonakis et al., 2014).

Lastly, another contribution is that this set of studies is a first step toward disentangling the theoretical mechanisms that may be relevant for understanding the effects of virtual charisma. Some findings were consistent with relationships that have been found in studies of face-to-face charisma (e.g., increased follower perceptions of leader prototypicality, competence, and influencing ability). However, CLTs did not increase perceptions of affect, trust, or identification with the leader (relationships that have been demonstrated in prior face-to-face studies, c.f. Antonakis et al., 2011).

Regarding follower performance, exposure to a charismatic leader caused higher task performance in a face-to-face setting, but not in a virtual setting. Thus, it appears that

virtual charisma operates differently than face-to-face charisma, and this is an important area to explore further to fully understand the boundary conditions of the theory.

Theoretical Implications

Development of leaders. Many of the earliest leadership theories emphasized the importance of innate traits and individual differences among leaders (House & Aditya, 1997). Charisma, like other positive leader traits, was believed to be an inherent quality that coexists with a systematic pattern of related abilities, characteristics, and skills (Bass, 1990). Under this logic, leaders were selected based on their current behaviors and tendencies (House, 1977; Lord et al., 2017). However, as the field has evolved, more modern leadership theories have instead focused on the training and development of leaders (Lord et al., 2017). Meta-analytic results have supported that many influential leadership styles can be developed with the use of interventions (Avolio et al., 2009). The findings from the present studies align with this theoretical shift in the field. In other words, charismatic leadership is not limited to the select few who are born with the "right" set of qualities. Rather, charisma can be trained and developed, opening the door to extend the applications of charismatic leadership in both theory and practice.

Signaling theory. The present work supports the new, signaling theory-based definition of charisma. In the context of signaling theory, leaders can be trained to exhibit charismatic tactics, and then use them to signal their own quality and what actions they would like followers to take. When information asymmetry exists between parties (Bergh et al., 2018), the leader sends signals, which are interpreted by followers, and then the signals positively influence follower behavior (Antonakis et al., 2016; Connelly et al., 2011). The data in the present studies supported this theoretical proposition in a face-to-

face context, where CLTs positively affected follower task performance. Although the leaders signaled CLTs in the virtual context, it did not translate to effects on follower performance.

Collectively, the present studies provide support for the new definition of charisma proposed by Antonakis and colleagues (2016). This definition asserts that charisma is "values-based, symbolic, and emotion-laden leader signaling" (Antonakis et al., 2016, p. 304). By using this definition, I was able to identify specific verbal and nonverbal behaviors that could be trained and then intentionally signaled by leaders. With an experimental design, I was able to demonstrate a causal relationship between observable leader signals and relevant follower outcomes: effects on performance in a face-to-face context, and effects on perceptions in a virtual context. Unlike prior research, which has largely relied on the MLQ to measure charisma (Antonakis et al., 2016), I was able to test the theory with more objective measures. These findings bolster signaling theory as a useful framework for understanding charismatic leadership (Antonakis et al., 2016; Connelly et al., 2011).

Virtual charismatic leadership. In addition to testing theory, this set of studies was one of the first to address another major gap in the charismatic leadership literature: the lack of empirical research on virtual leader-follower interactions. "Virtual" was operationalized as interactions that are geographically dispersed, fully mediated by technology, and asynchronous. This was the first experimental study to examine CLTs and their effects on individual performance in a fully virtual context. Results indicated that in a virtual context, the effect of CLTs on performance was not significant, but leaders may still be able to use CLTs to signal positive qualities about themselves. One

plausible interpretation of these results is that the virtual signaling of CLTs could affect

follower *perceptions,* but may not be strong enough to influence follower *behaviors*.

These findings have important implications not just for charismatic leadership,

but also for other moral or values-based leadership styles that have not yet been

extensively studied in virtual contexts. Importantly, we cannot assume that just because

leadership behaviors are effective in face-to-face interactions, they will also be equally

effective in virtual interactions. There may be important, undiscovered boundary

conditions for the efficacy of charismatic leadership and other leadership styles that are

believed to be widely effective, such as transformational, authentic, ethical, and servant

leadership (Banks et al., 2018). More research is needed to examine the potential

limitations in these theories.

Practical Implications

Organizational outcomes. First and foremost, this research showed that in a

face-to-face context, charismatic leaders can increase follower performance even without

providing additional monetary incentives. Followers were more productive (without

sacrificing quality of work) simply because they were exposed to a leader who used more

charismatic tactics in her four-minute speech. In addition, although it was not statistically

significant, a 56% increase in the number of people who were willing to stay and do extra

work for no additional pay may still be of practical significance to managers. A key

takeaway is that organizations could make a one-time investment in training a leader who

will then produce higher output among his or her team members, rather than pay out

individual bonuses to every employee on the team in hopes of improving performance

(Antonakis et al., 2015). The former approach is more cost-effective and sustainable,

because a charismatic leader can continue to apply CLTs to future projects once they have developed the requisite skills.

While these findings are promising, they may not be universal. In a virtual context, there was no evidence to support that CLTs were effective in increasing follower performance. This means that managers may not be able to improve performance by implementing CLTs in their virtual work interactions, such as Zoom, WebEx, or Skype meetings, for example. However, if the manger's goal is to increase positive perceptions about him- or herself, using CLTs may still be an effective strategy.

Data from these studies suggested that CLTs influenced some positive leader perceptions that could be valuable in an organizational setting (specifically leader prototypicality, competence, and influencing ability). These outcomes may be critical for new leaders who are trying to make a good first impression on followers, or managers who are trying to maintain a sense of authority in times of instability or hardship. In sum, leaders who use CLTs will likely see either a positive or no net effect on followers' performance, and regardless of performance effects, they will still likely benefit from more positive follower perceptions.

Leadership training. Several studies, including the present work, have shown that CLTs have a positive effect on follower outcomes; so how can managers increase the use of CLTs in the workplace? These findings indicate that charisma can be trained and intentionally applied to a speech. Further, CLTs can be trained with a relatively brief intervention lasting only a few hours. Managers, instructors, and trainers in organizational settings could use a protocol similar to the one used in our actress' training to improve employees' charisma. A one- or two-day workshop or executive education

course may be able to noticeably improve employees' use of CLTs, and thus improve their effectiveness in motivating others. This can be a cost-effective intervention with little to no risk that could be executed in a scalable, standardized manner, allowing organizations to effectively train large numbers of employees.

Limitations and Future Research

A randomized experiment is one of the most powerful methods to test cause-and-effect relationships (Antonakis, 2017; Podsakoff & Podsakoff, 2019), but this set of studies has a few limitations that warrant consideration. First, a limitation of this design was the brief, one-time interaction between the leader and follower. In the virtual study, this was also an asynchronous interaction. This type of interaction may not accurately reflect an ongoing relationship between a manager and a subordinate in an organization. It is possible that the effect of charisma may work initially, but then wear off over time. Managers who already have a reputation in an organization may find it difficult to abruptly change their style to be more charismatic. However, the scenario used in the present studies could still be representative of certain real-life work events. This type of interaction could resemble a town hall meeting or annual presentation on company performance from an executive leader. Regardless, future research should continue to study leader-follower interactions "in the field" to understand how CLTs influence outcomes in more extensive interactions over a longer period of time.

A second limiting factor in the generalizability of these findings is the nature of the work task that was selected. Due to the emotional and symbolic components of charisma, the task selected for both studies intentionally had a moral component (i.e., helping children in underserved schools). It is possible that this effect could be the

different for a more emotionally neutral task or for work that employees are required to do on a daily basis. Future research should consider the use of tasks that do not have a moral component to better reflect the variety of work that many employees do in the real world.

Another limitation is that the experimental manipulation involved the use of a set of multiple CLTs at the same time. Therefore, it is difficult to disentangle exactly which CLTs may have been driving the effect on performance. However, manipulating only one CLT at a time may not produce the same intended effect as using the "entire package" of CLTs. Future studies may examine individual, or smaller subsets of CLTs to determine which are most influential in predicting follower performance. In addition, other tactics not included in the 12 core CLTs (such as using humor or talking about sacrifice) have been found to play a role in the effect of charisma, and these tactics should be explored further (Antonakis et al., 2012).

Lastly, though it was an intentional decision to increase the validity of the manipulation, the use of a professional actress may be viewed as a limitation. The actress was effectively trained to exhibit CLTs in as little as five hours of training and then this translated to observable effects on follower performance. Employees in an organization may require more extensive training to achieve the same effect and sustain it.[17] Leadership researchers should continue to examine the effectiveness of leadership training on laypeople, not just professional actors.

[17] However, Antonakis and colleagues' (2011) study suggested that real employees (not trained actors) were able to significantly improve their charisma after attending a 1-day workshop, having a phone call with a facilitator, and reviewing training materials on their own.

In addition to the future directions outlined above, researchers should continue to investigate the effects of charisma in a modern organizational context: one that includes geographically dispersed, technology-mediated interactions between leaders and followers. More randomized experiments and field studies should be conducted to better understand how the effect of CLTs occurs (or does not). This study examined one end of the virtuality spectrum, but future research should examine other forms of virtual communication such as webcam, phone, instant message, or email. Prior studies have demonstrated that there are differences in how charismatic speeches are perceived when they are viewed and heard in a video compared to when they are read in text-only format (Rosenberg & Hirschberg, 2009). Because leaders use a variety of different technologies to communicate with followers, it is important to understand how charisma may be perceived differently across these channels.

Another prominent feature of modern organizations is international presence and cross-cultural interaction (Allen & Vardaman, 2017). The effectiveness of charismatic leadership is not well-established in all cultures, since the majority of research has been done in the United States and other Westernized countries (Antonakis et al., 2016; Banks et al., 2017). Global leadership research has suggested that charisma is a universally endorsed trait in leaders (Javidan et al., 2006), but the effects of charisma on objective performance have yet to be examined. Future researchers should continue to investigate charismatic leadership in different countries and cultures to understand whether the tactics that have been identified are consistently effective. These potential boundary conditions should be explored in future studies with diverse, international samples, especially those that are culturally distinct from the United States.

Conclusion

In sum, the present studies suggest that leader charisma can be trained, and CLTs improved follower performance in a face-to-face setting. In a virtual setting, CLTs increased positive perceptions of the leader, but did not increase follower performance. Organizations should take advantage of training their employees to use CLTs with brief interventions, but more research needs to be done to fully understand whether this training is advantageous for managers who lead in virtual settings.

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Table 1

Charismatic Leadership Tactics (CLTs)

	CLT	Definition	Why effective	Example
VERBAL	Metaphor (or simile)	Metaphor refers to a word or phrase used to describe an object or action that is different from its original meaning. A simile is a related comparison which often uses "like" or "as."	Simplify message, invoke symbolic meaning, offer new perspective	"In certain quarters of the world, brand EU, brand USA, is not as its shiniest. The neon sign is fizzing and crackling." (Bono, 2006)
	Stories/anecdotes	Generally refers to particular places, events, characters. Has a plot and/or resolution. Do not need to be true.	Make message more memorable through visualization and/or emotions.	"I bought my first Apple computer in 1978 and I bought it because I could say, "I got a computer at my house and you don't." (Burt Rutan, 2006)
	Moral conviction	Personal statement of values or assessment of a situation that is value-laden. Often asserts right from wrong.	Allow followers to identify with leader and his/her message	"It is all the more regrettable that women and children were used as a shield. It is inhuman. (Gandhi, 1948)
	Sentiment of the collective	Statement of what one believes the followers are thinking, feeling, or aspiring to.	Demonstrate similarity to followers, follower see leader as a representative of the group	"I think I know what you may be thinking right now – thinking "we were just part of a bigger effort; everyone was brave that day." Well everyone was." (Ronald Reagan, 1984)
	Setting high expectations	Explicit goal-setting for followers that is ambitious, often specific.	Motivate followers to work hard	"I'm committed to seeing every 4-year-old in America have access to high quality pre-school in the next 10 years." (Hillary Clinton, 2015)
	Create confidence that goals can be achieved	Statement that the speaker believes goals can be achieved.	Increase followers' self-efficacy	"But I want you to know tonight, that we, as a people, will get to the Promised Land!" (Martin Luther King, 1968)
	Contrasts	Figure of speech in which one idea is opposed to another one.	Provide frame and focus, clarify position by pitting it against an opposite	"My fellow Americans, ask not what your country can do for you but what you can do for your country" (John F. Kennedy, 1961)

	Lists and repetition	Lists are composed of at least three parts and usually a maximum of five. Can be explicit (using numbers) or implicit. Repetition refers to a word or phrase repeated two or more times.	Create impression of completeness, clearly outline key takeaways	"I have nothing to offer but blood, toil, tears and sweat" (Winston Churchill, 1940)
	Rhetorical questions	Question that is asked to create an effect or make a statement, not to gather information.	Create anticipation, engagement	"Can a nation organized and governed such as ours endure? That is the real question." (John F. Kennedy, 1960)
NONVERBAL	Body gestures	Hand, arm, or body movements used to emphasize a point	Demonstrate passion, makes leader more memorable	Waving a hand to draw attention
	Facial expressions	Expressions such as smiling, frowning, and laughing used to demonstrate emotion	Demonstrate passion, makes leader more memorable	Maintaining eye contact with listeners
	Animated voice tone	Raising and/or lowering voice pitch or volume; intentional pauses in speech	Demonstrate passion, makes leader more memorable	Rising to a crescendo at an important point

Note. The CLTs described above are introduced by Antonakis and colleagues (2011). The definitions and examples are derived from a CLT coding training guide developed by Antonakis, Tur, and Jacquart (2017).

Table 2

Original and Adapted Items

Original Item	Adapted Item
Leader Prototypicality (Antonakis et al., 2011)	
The person I am rating frequently demonstrates leader behavior.	The person I am rating demonstrates leader behavior.
The person I am rating acts like a typical leader.	-
The person I am rating fits my image of a leader.	-
Leader Outcomes (Antonakis et al., 2011)	
I like this person as a leader.	-
The person I am rating is easily trusted.	-
The person I am rating is competent as a leader.	The person I am rating would be competent as a leader.
The person that I am rating is able to easily influence others.	The person that I am rating would be able to easily influence others.
Similarity (Blanchard et al., 2020)	
We are alike.	-
We have similar attitudes.	-
We have similar values.	-
We see things much in the same way.	-
Identification with Leader (Shamir et al., 1998)	
I have complete faith in him	I have complete faith in her
I respect him	I respect her
I am proud to be under his command	I am proud to follow her instructions
I trust his judgment and decisions completely	I trust her judgment completely
He represents values that are important to me	She represents values that are important to me
My values are similar to his values	My values are similar to her values
He is a model for me to follow	She is a role model
Identification of Message (Rosenberg & Hirschberg, 2009)	
I agree with the speaker	-
The speaker's message is clear	-

Note. All items were adapted to be on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree) with a midpoint of 3 (Neither Agree Nor Disagree)

Table 3

Descriptive Statistics for Study 3

	M (SD)	1	2	3	4	5	6	7
1. Prototypicality	4.05 (0.77)							
2. Affect	4.12 (1.07)	0.73						
3. Trust	4.12 (0.95)	0.64	0.54					
4. Competence	4.26 (0.90)	0.71	0.60	0.61				
5. Influencing ability	4.11 (0.92)	0.71	0.64	0.64	0.61			
6. Similarity	3.79 (0.84)	0.60	0.57	0.58	0.54	0.60		
7. Identification with leader	4.07 (0.77)	0.80	0.82	0.69	0.73	0.74	0.74	
8. Identification of message	4.37 (0.72)	0.57	0.60	0.42	0.55	0.50	0.50	0.72

Note. All correlations are significant at *p* < .05

Table 4

Results of Hypothesis Testing for H3-H10

| Outcome Variable	Control M (SD)	Charisma M (SD)	Df	t	p-value	95% CI	Cohen`s d
Signaling Theory Hypotheses							
H3. Prototypicality	3.92 (0.81)	4.19 (0.70)	123.55	-2.05	.04	-.54 – -.01	-.36
H4. Competence	4.08 (1.00)	4.45 (0.75)	117.06	-2.37	.02	-.68 – -.06	-.42
H5. Trustworthiness	4.02 (0.94)	4.23 (0.95)	125.92	-1.29	.20	-.55 – .12	-.23
H6. Influencing ability	3.91 (0.99)	4.31 (0.81)	121.51	-2.52	.01	-.72 – -.09	-.45
H7. Affect	4.05 (1.05)	4.19 (1.10)	124.93	-0.73	.46	-.52 – .24	-.13
Hyperpersonal and SIDE Model Hypotheses							
H8. Similarity	3.68 (0.86)	3.91 (0.81)	126.22	-1.55	.12	-.52 – .06	-.27
H9. Identification with leader	3.99 (0.84)	4.15 (0.69)	121.72	-1.18	.24	-.43 – .11	-.21
H10. Identification of message	4.30 (0.74)	4.45 (0.71)	126.57	-1.17	.24	-.40 – .10	-.21
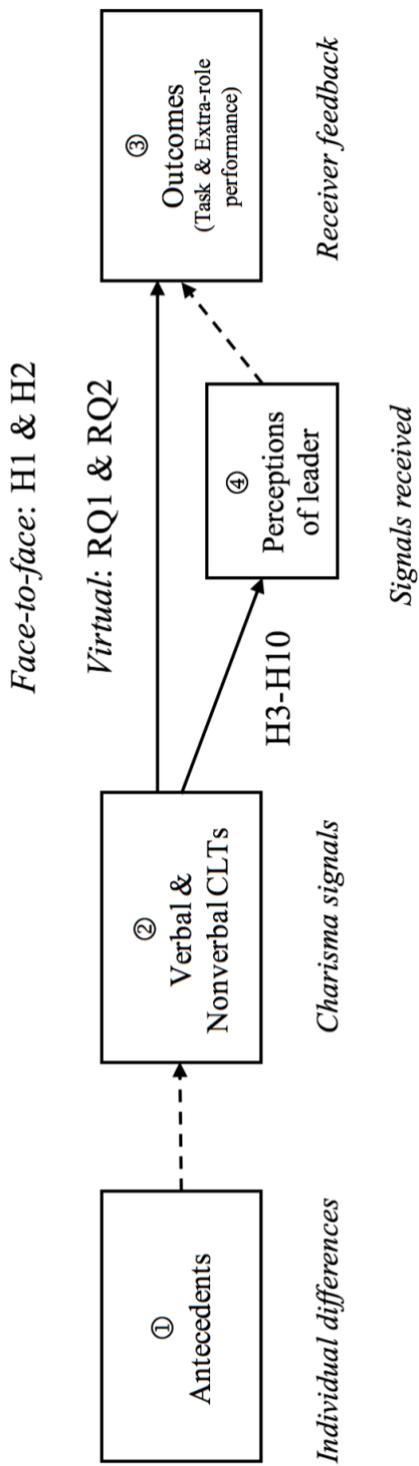
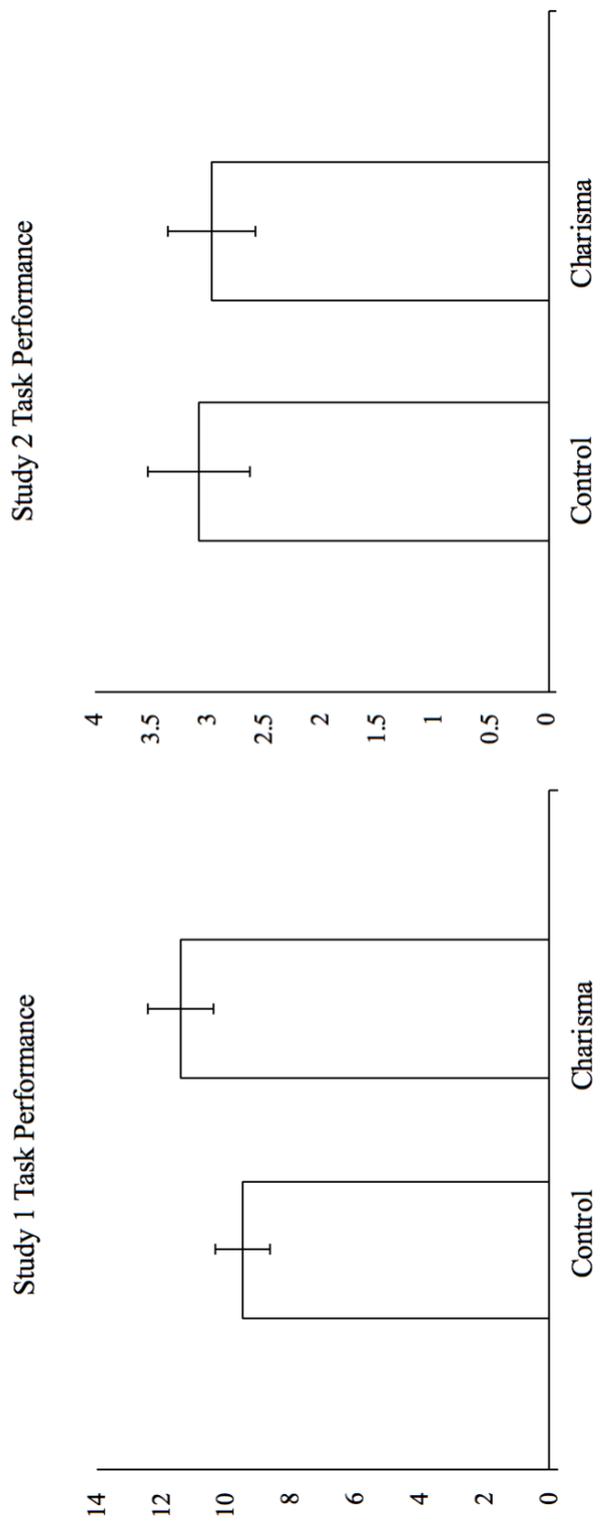*Figure 1.* Signaling theory and charismatic leadership.

Figure 2. Results of Study 1 and Study 2 task performance.

APPENDIX A: Script for Speeches for Face-to-Face Experiment

Charismatic Speech

Hi. My name is Amanda and I'm working with the team that is leading this initiative. I'm here today to brief you on the importance of what you are about to do. In the next couple of minutes, I want to explain the nature of this campaign, and why, in my spare time, I'm going to be making flashcards too. Okay, so let's talk about why are you here? You may think you are here just to create flashcards to earn a little extra money. But in reality, by participating in this campaign, you are doing something special. You are aiding *Classroom Central* achieve its noble mission: to help students living in poverty learn more effectively by collecting and distributing free school supplies. Your efforts will make a difference to children who, because of their limited access to quality supplies, would otherwise become disengaged and form negative associations with learning. Helping with this task isn't just something worth doing; it's the right thing to do.

So how is making a few flashcards really something special? Many children do not have access to the basic learning tools they need to learn and practice fundamental concepts. Think about what that must be like. For the parent? The child? The flashcards you will create will help students learn essential basic concepts, such as shapes and numbers. They will be donated to the 100,000 students across six school districts where 1 in 2 children live in poverty. In a way, these flashcards are a ticket for a child to improve their next exam grade. Let me tell you why.

Practicing with flashcards can be a fun, entertaining, and engaging way to study and learn. My organization helps schools and teachers who cannot afford to purchase new supplies for children throughout the school year. The flashcards you create will help the students in a number of ways, for example, by allowing them to learn in class and to take the cards home and practice outside of class. Every set of flashcards you complete will make a difference.

I want you to do three things as you prepare to give these children tickets to pass their next exams: work hard, work smart, and think of the kids you're helping. First: Work hard. You will receive credit regardless of how many sets of flashcards you create, but the more you do, the better. The more flashcards you create, the more children we can support. Second: Work smart. Follow the instructions: create the flashcards to match the template exactly and put them together in order from one to ten, then label each bag. We don't want to create sets of flashcards that are incomplete or inaccurate. A bad set of flashcards is a bad ticket. Third: Think of the kids when you do your job. You are not just creating flashcards to earn money. You are creating flashcards to help kids in need.

As you get into the work of creating the cards, you might be tempted to only do the minimum requirement – you may ask yourself—will putting in extra effort really help? Yes, it will, and to show you how, I'd like to tell you a story that was told to me when I questioned my impact in the past. There once lived an old man who, while walking

along the seashore, noticed a small girl picking up starfish and throwing them into the sea. The old man approached her saying: "what are you doing?" She replied: "I am throwing starfish into the sea, because the sun is coming up and the starfish will die." "But," said the man, "there are thousands of starfish, the sun is high, and the tide is going out. How can you possibly make any difference?" Without a word, the girl bent down, picked up another starfish, and threw it into the sea. When she heard the splash of the starfish as it returned home to the ocean, she pointed to the spot it disappeared beneath the waves and said to the old man, "well, I made a difference to that one."

So remember, every single set of flashcards is a ticket for another child to pass their next exam: the more flashcards we create, the more children we can help. Remember this message, "work hard, work smart, think of the kids." I know you can do it, so let's get started. Thank you for listening to me. You may now begin the task.

Noncharismatic Speech

Hi. My name is Amanda and I am working with the team that is leading this initiative. I'm here today to brief you on the importance of what you are about to do. In the next couple of minutes, I want to explain the nature of this campaign, and why, in my spare time, I'm going to be making flashcards too. Of course, you are here to work on creating flashcards for a little while and you will also earn some extra credit in your class. That is clear. But, at the same time your efforts will also help *Classroom Central* achieve its noble mission: to help students living in poverty learn more effectively by collecting and distributing free school supplies. Your efforts will make a difference to children who, because of their limited access to quality supplies, would otherwise become disengaged and form negative associations with learning. Therefore, the job you are about to do is really important.

Now let me tell you about how these flashcards will be used. Many children do not have access to the basic learning tools they need to learn and practice fundamental concepts. This is a very serious problem. The flashcards you will create will help students learn essential basic concepts, such as shapes and numbers. They will be donated to the 100,000 students across six school districts where 1 in 2 children live in poverty. You will help children because the flashcards will go directly to classrooms which do not have the funds to purchase new supplies. Each set of cards can potentially help a child do better on his or her next exam.

Practicing with flashcards can be a fun, entertaining, and engaging way to study and learn. My organization helps schools and teachers who cannot afford to purchase new supplies for children throughout the school year. The flashcards you create will help the students in a number of ways, for example, by allowing them to learn in class and to take the cards home and practice outside of class. Every set of flashcards you complete will make a difference.

So, I want you to be professional when you are doing this job. If you work hard and focus, you can create lots of flashcards to help the children. You will receive credit

regardless of how many sets of flashcards you create, but the more you do, the better. The more flashcards you create, the more children we can support. Please follow the instructions you have been given on the template. You will create the cards and put each complete set in a bag and label them. Make sure to follow the template as closely as possible and keep the cards in the correct order (one through ten.) We don't want to create sets of flashcards that are incomplete or inaccurate. A bad set of flashcards might not help students learn. Also, please think of the children when you do your job because every set of flashcards can potentially them.

As you get into the work of creating the cards, you might be tempted to only do the minimum requirement —you might think that your extra effort won't really help. But this is not true. Just think of all the other people we have hired to do this task as well. We are going to several other classes at UNC Charlotte to recruit students to work on this initiative for us. Remember that the more flashcards you can make, the more we will have to send out to the classrooms in need. At the end of the day, if everyone works hard we will be able to make a much bigger difference to these children, which is really what matters most of all. So please do your best by doing your job as well as you can, to the best of your ability. Doing so will really help make a difference to the children. Of course, this will help you to earn some extra credit in your class too, so we are all winning here.

As you are working on the flashcards, remember that each set is important. So, work as hard as you can, and work as precisely as you can by following instructions carefully. Please pay attention to your work and do the best that you can. Thank you for listening to me. You may now begin the task.

APPENDIX B: Template for Face-to-Face Work Task

Numbers

Create a flashcard set to help kids learn the numbers 1 through 10!

Please complete the 10 numbers below on one side of the index card. You may use any color for any card, but please make sure each card is neat and readable!

| 1 ONE | 2 TWO | 3 THREE | 4 FOUR | 5 FIVE |
| 6 SIX | 7 SEVEN | 8 EIGHT | 9 NINE | 10 TEN |
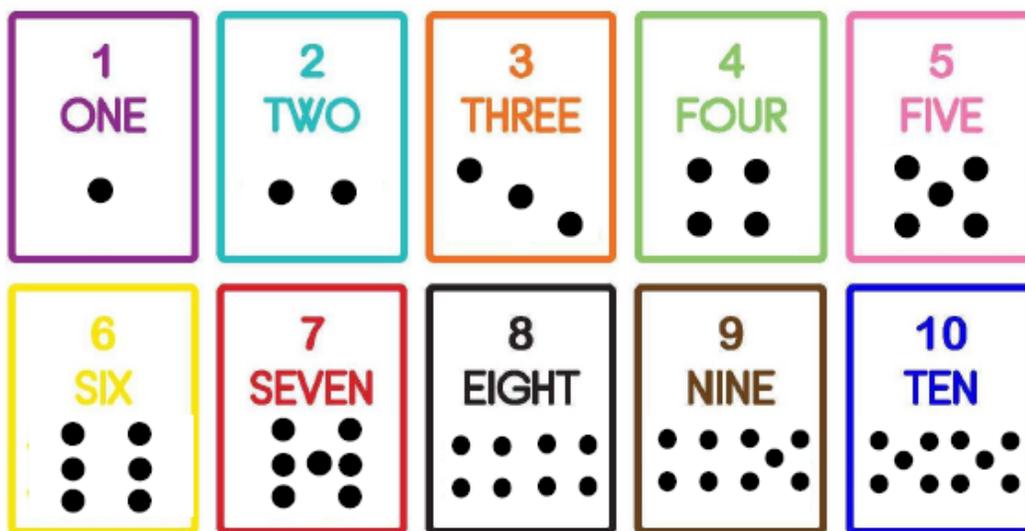
Once you've completed a full set (10) of the number cards, place the set in a Ziploc bag and label it "Numbers."

Tag us on social!

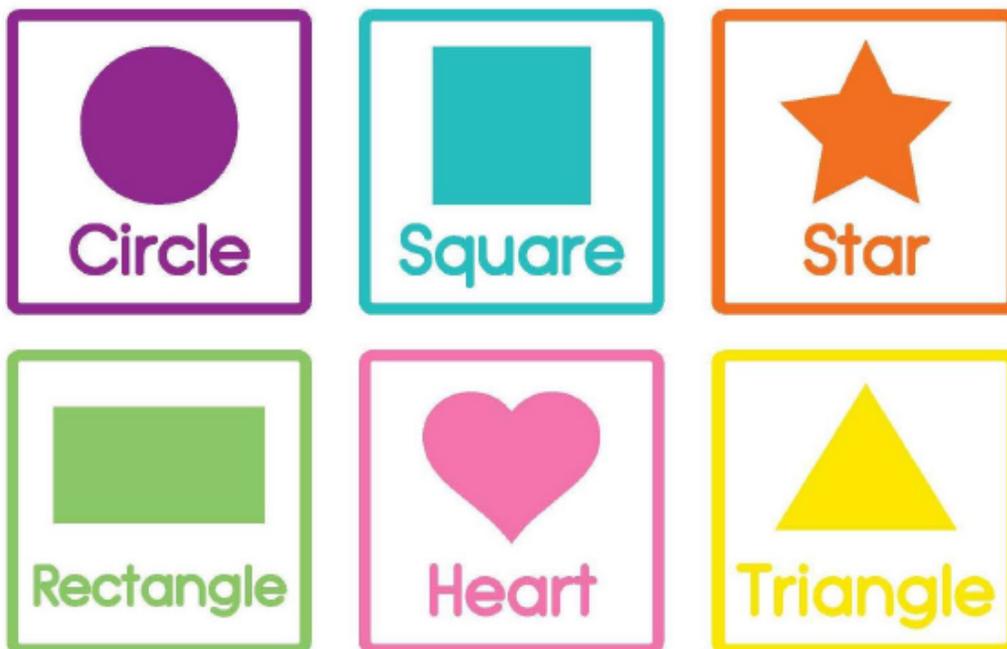Classroom Central
SUPPLYING OUR STUDENTS

APPENDIX C: Template for Face-to-Face Optional Task

Shapes

Create a flashcard set to
help kids learn their basic shapes!

Please complete the 6 shapes below on one side of the index card.
You may use any color for any card, but please make sure each card
is neat and readable!

Circle	Square	Star
Rectangle	Heart	Triangle

Once you've completed a full set (6) of the shape cards,
place the set in a Ziploc bag and label it "Shapes."

Tag us on social!

Classroom Central
SUPPLYING OUR STUDENTS

APPENDIX D: Follow-Up Survey

Thank you for completing the task. Now we would just like to gather some background information about you. In this section, we are interested in your beliefs about the norms, values, and practices in your society. In other words, we are interested in the way your society is — not the way you think it should be. There are no right or wrong answers, and answers don't indicate goodness or badness of the society. Please respond to the questions by selecting the option that most closely represents your observations about your society.

In this society:

group cohesion is more valued than individualism		group cohesion and individualism are equally valued			individualism is more valued than group cohesion	
1	2	3	4	5	6	7

In this society, a person's influence is based primarily on:

One's ability and contribution to the society					The authority of one's position	
1	2	3	4	5	6	7

In this society being accepted by the other members of a group is very important.

Strongly Agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
1	2	3	4	5	6	7

In this society, people in positions of power try to:

Increase their social distance from less powerful individuals					Decrease their social distance from less powerful people	
1	2	3	4	5	6	7

In this society, followers are expected to:

Obey their leaders without question					Question their leaders when in disagreement	
1	2	3	4	5	6	7

The economic system in this society is designed to maximize:

Individual interests					Collective interests	
1	2	3	4	5	6	7

In this society, power is:

Concentrated at the top					Shared throughout society	
1	2	3	4	5	6	7

In this society, rank and position in the hierarchy have special privileges.

Strongly Agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
1	2	3	4	5	6	7

In this society, leaders encourage group loyalty even if individual goals suffer.

Strongly Agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
1	2	3	4	5	6	7

Please select your gender:

○ Male

○ Female

○ Non-binary/third gender

○ Prefer to self-describe _____

○ Prefer not to say

Please enter your age in years:

_____

Please select your race/ethnicity:

○ American Indian or Alaska Native

○ Asian

○ Black or African American

○ Native Hawaiian or Other Pacific Islander

○ White

○ Other _____

Please enter your email address to receive your Amazon gift card.

_____

APPENDIX E: Email Invitation for Virtual Study

Thank you for your interest in the **Virtual School Supplies** project. This is a really important service that you are providing to help create study materials for young school-aged children. Here are some important things to note before you begin. <mark>Please read the following before you start the task:</mark>

- You MUST have an **uninterrupted block of time** (about 1 hour and 15 minutes) to complete this task. You cannot start, stop, and start again. ONLY begin the task if you know you can complete the entire task in one sitting.

- You MUST complete this task on a **laptop or desktop** computer. You may NOT use a mobile phone, tablet, or other device without a keyboard.

- You MUST have **audio** enabled on your laptop/computer. You can use either speakers or headphones/earphones, but you must be able to listen to multiple videos for about 4-5 minutes each.

- You MUST complete the task **within one week** (by end of the day on 12/17/19) in order to receive your Amazon gift card. If you do not complete the task by this deadline, we will move to the next person on the waitlist.

You will view videos and then you will work on a task creating study materials. You will receive your Amazon gift card *within 1-2 weeks* of completing the task. All of the instructions will be provided to you at the following link.

If you acknowledge the points above, you may click the following link to begin:

Click here to begin the task

APPENDIX F: Task Instructions for Virtual Work Task

Introduction

Thank you for agreeing to help us with this initiative. We are requesting your help with building worksheets for children in local elementary schools. We need your help to create unique worksheets for the students. Below is an overview of the task.

1. You will be provided with a list of words.
2. You will then look up the definitions of the words in an online dictionary.
3. You will then input words and definitions into a website that generates crossword puzzles.

During your participation, it is important to work on this task only and avoid distractions (e.g. checking email, social media) so that you can make efficient use of your time. You will be working on this task for 45 minutes, and you will also watch a few brief videos. Finally, we will ask you to fill out a short survey at the end of the task. Please be sure you have 1 hour and 20 minutes of uninterrupted time available before you start this task.

On the next page, you will view an instructional video which will describe the task you will be working on. Please pay close attention to this video.

APPENDIX G: Script for Speeches for Virtual Experiment

Charismatic Speech

Hi. My name is Amanda and I'm working with the team that is leading this initiative. My main task is to brief you on the importance of what you're going to do; but, in my spare time I will be creating study sheets too. In the next couple of minutes, I will explain the nature of this campaign. So, why are you here? You may think you are here just to create study sheets to earn a little extra money.

However, by participating you are doing something special in helping *Study Sheets for Success* achieve its noble mission: to help students prepare for their standardized tests by creating and distributing unique, fun study sheets. Your efforts will make a difference to children who may become disengaged and form a negative association with learning. Helping with this task is not just something worth doing; it is the right thing to do. In a way, these study sheets are a ticket for a child to improve their next exam grade. Let me tell you why.

Many parents do not have time to study with their children, and children may become bored or frustrated with studying. What must that be like? For the parent? The child? Completing study sheets with puzzles can be a fun, entertaining, and engaging way to present vocabulary and science content in a new light. By creating these study sheets, you will help children when the materials are donated and used in elementary classrooms.

Studies have shown that when children learn with entertaining tasks like puzzles, they retain more information. Students with and without learning disabilities who have a hard time with reading may also benefit from the use of study sheets. This means that each study sheet can potentially help a child read one more book, or even pass their next exam. Every study sheet that is created will make a difference.

So, I want you to do three things to give the children that ticket to pass their next exam: work hard, work smart, and think of the kids that you're helping. First: Work hard. You will be paid regardless of how many sheets you create. However, the more you do, the better; the more study sheets created, the more children we can potentially help. Second: Work smart. Follow the instructions you were given in the video, which will also be referenced on the next page. We do not want to create study sheets that are incomplete or inaccurate. A bad study sheet is a bad ticket. Third: Think of the kids when you do your job. You're not just creating study sheets to earn money. You're creating study sheets to help kids improve their reading and vocabulary skills too.

So you might think, well, I'll just do what I have to—will any extra effort really help? Yes, it will! To show you why, let me tell you a story about an old man who while walking along the seashore noticed a girl picking up starfish and throwing them into the sea. The old man approached her saying: "what are you doing?" She replied: "I am throwing starfish into the sea, because the sun is coming up and the starfish will die."

"But," said the man, "there are thousands of starfish, the sun is high, and the tide is going out. How can you possibly make a difference?" The girl bent down, picked up a starfish, threw it into the sea and said: "well, I made a difference to that one."

Remember, every study sheet is a ticket for a child to pass their next exam: the more sheets we create, the better. Remember this message, "work hard, work smart, and think of the kids." I know you can do it. So let's get started. You may now begin working. Thank you.

Noncharismatic Speech

Hi. My name is Amanda and I am working with the team that is leading this initiative. My main task is to brief you on the importance of what you are going to do; but, in my spare time I will be creating study sheets too. In the next couple of minutes, I will explain to you the nature of this campaign and give you an overview of the task ahead. Of course, you are here to create study sheets and earn some extra money. That is clear.

At the same time your efforts will also help our project Study Sheets for Success achieve what is a noble mission, to help students prepare for their standardized tests by creating and distributing unique, fun study sheets. Your efforts will make a difference to children who may become disengaged and form a negative association with learning. So, the job you are about to do is really important. The materials you will use are common in standard test preparation for 3rd graders in elementary school. They are used in classrooms to help teach children basic knowledge related to reading comprehension and science.

Many parents report they do not have time to study with their children, and children often become bored or frustrated with traditional study methods. By creating these study sheets, you will help children when the materials are donated and used in elementary classrooms.

Studies have shown that when children learn with entertaining tasks like puzzles, they retain more information. Students with and without learning disabilities who have a hard time reading may also benefit from the use of study sheets. This means that each study sheet can potentially help a child read one more book, or even pass their next exam. Every study sheet that is created will make a difference.

So, I want you to be very professional when you are doing your job so that you can help the children better. Of course, you will be paid regardless of how many sheets you create. However, the more you do, the better; the more study sheets created, the more children we can potentially help. Please closely follow the instructions you were given in the video, which will also be referenced on the next page. We do not want to create study sheets that are incomplete or inaccurate. A bad study sheet is problematic because it might not help the children learn. Also, please think of the children when you do your job because every study sheet can potentially help a child.

So you might think, well, I'll just do what I have to—making an extra effort won't really help. But, yes, your extra effort will help! Just think of all the other people we have hired to do this task as well. Every study sheet helps. The more study sheets you create for us, the more variety we will have to share with the classrooms and students in need. This means more students we can potentially help and a greater range in the content they can learn. At the end of the day, we may be able to make a much bigger difference to these children, which is really what matters most of all. So please do your best by doing your job as well as you can, to the best of your ability. Doing so will really help make a difference to the children. Of course, this will help you to earn some extra money too, so we're all winning here.

Remember, each study sheet is important: The more we create, the better. So work as hard and as precisely as you can by following instructions and listening closely. Please do the best you can because in this way we can all better help the children. Thank you for listening. You may now begin the task.

APPENDIX H: Preview of Leader Videos
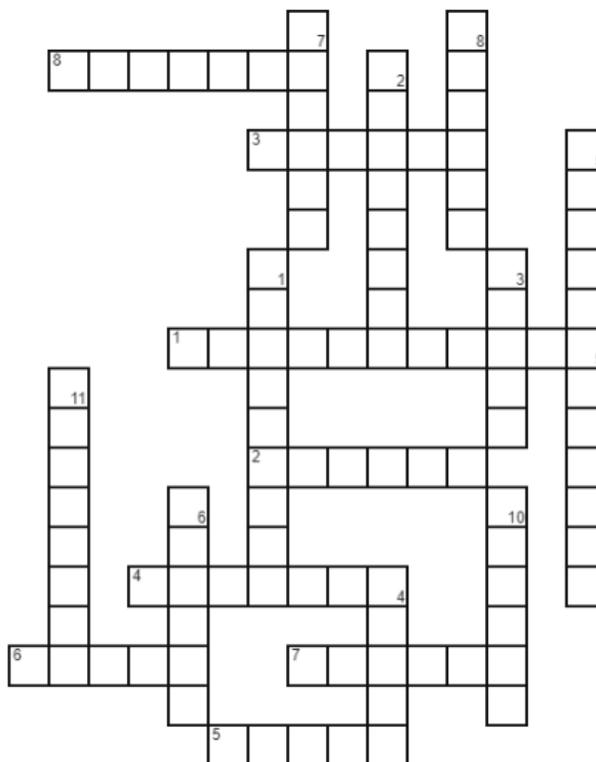
Charismatic Speech

Non-Charismatic Speech

APPENDIX I: Sample of Study Sheet from Virtual Work Task

Name: Date:

Vocabulary Crossword

Across

1. a very small, brightly colored American bird that has wings which beat very fast
2. to tell (a story) again especially in a different way
3. a round root of a plant that has brown, yellow, or red skin and white or yellow flesh and that is eaten as a vegetable
4. a thin sensitive organ on the head of an insect, crab, etc., that is used mainly to feel and touch things — sometimes used figuratively
5. to give reasons for or against something
6. to do the first part of an action
7. to take place especially without being planned
8. things that are no longer useful or wanted and that have been thrown out

Down

1. to tell (information) again using fewer words
2. a small spoon that is used especially for eating soft foods and stirring drinks
3. to believe that something is true, that a particular situation exists, that something will happen, etc.
4. a round fruit with red, yellow, or green skin and firm white flesh
5. in a circle
6. a long curved fruit with a thick peel that is yellow when it is ripe
7. to begin to be or come to be something specified
8. at an earlier time
9. to cause (something) to end or no longer exist
10. the surface of the earth
11. most liked

Key

For more free tools visit http://edtools.mankindforward.com

Across

1. hummingbird
2. retell
3. potato
4. antenna
5. argue
6. begin
7. happen
8. garbage

Down

1. summarize
2. teaspoon
3. think
4. apple
5. around
6. banana
7. become
8. before
9. destroy
10. ground
11. favorite

APPENDIX J: Sample of Study Sheet from Optional Virtual Work Task

Name: Date:

Science Word Search

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O K E L B I S I V B O T T S T
Y H T O W A T E R M H R E U D
G N N D S W O R G A D A S P B
D A E O N K Y T A R L N E P C
E K M R W G M V I E I S E O W
V E H L X N S T D T L P D R J
E W S E K I I F M A H A L T A
L P I S D V N S T W U R I S G
O L R S N I A T O R Q E N A N
P A U B U L G F O U X N G N I
M N O A O U R W E C R T E J R
E T N B R M O E P Q A C G M E
N P T D G C L I Q U I D E A V
T C E V I T C E T O R P T B O
S X N U T R I E N T S J C H C
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Word List

1. plant
2. living
3. organism
4. water
5. grows
6. ground
7. supports
8. source
9. development
10. protective
11. covering
12. seedling
13. nutrients
14. nourishment
15. visible
16. water
17. transparent
18. odorless
19. liquid