Motivational Contagion in a Leader-Follower Dynamic

by

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Thank you to Dr. Lonnie Yandell, the mentor and friend who first showed me what science is.

ABSTRACT

Motivational contagion is a process where one individual's motivations are adopted by others (Dragoni & Kuenzi, 2012). Leaders enact motivational contagion when they share their goal orientations with followers. The present work applied motivational contagion to a leader-follower dynamic to identify how motivational contagion occurs and if substitutes/neutralizers to leadership reduce the rates of motivational contagion. It was hypothesized that motivational contagion occurs because leaders behaviorally establish a desired goal orientation which signals followers to similarly adopt that goal orientation. The presence of substitutes/neutralizers to leadership were hypothesized to moderate and reduce the rates of motivational contagion. These hypotheses were mostly supported, indicating that leaders do share their goal orientations with followers, but this process is sometimes hindered by substitutes/neutralizers to leadership. Theoretical implications include a new model for motivational contagion in a leader-follower dynamic that can inform future research. Practical implications include a reminder to leaders to be aware of what motivations they silently share with followers.

Keywords: Motivational contagion, leadership, substitutes/neutralizers to leadership

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CHAPTER I: INTRODUCTION

To effectively and efficiently pursue their strategic goals, organizations often align their various processes and components (Kathuria et al., 2007; Powell, 1992; Semler, 1997). Specifically, the organization's structure, employees, tasks, and systems should all interdependently serve a unified purpose (Nadler et al., 1992). Organizations often attempt to instill such alignment in employee values with mission statements (Davis et al., 2007; Ireland & Hirc, 1992), which communicate values that align individuals' varying motivations and behaviors with the organization's desired motivations and behaviors. In their efforts to align employees toward a shared purpose, mission statements have become quite common among many types of organizations.

Despite their popularity, mission statements have yielded conflicting results (Bartkus et al., 2006; David, 1989). One of the main reasons behind their failure is a lack of transferred values (Bartkus et al., 2006). As stated previously, it is difficult for organizations to pursue strategic goals if such goals do not align employees with the organization's values. Such alignment with values occurs at the work group level, often between leaders and followers (Ashkanasy & O'Connor, 1997; Jung & Avolio, 2000; Meglino et al., 2012). While many values exist, three main values - goal orientations - motivate behavior, namely to learn, perform well, or avoid performing poorly. To help pursue strategic goals in a unified manner, it is thus worthwhile for leaders to align their followers' behaviors around these goal orientations. Motivational contagion is a method to enact such alignment. It is a transference of one's motivations to another, thus establishing motivational congruence.

The purpose of the present work is to add to the motivational contagion literature by proposing and testing a theorized process of motivational contagion between leaders and followers. Generally speaking, this theorized process begins with workers' goal orientations predicting their goal orientation-aligned behavior. Such goal orientation-aligned behaviors from leaders and followers then predict the work group climate for each goal orientation. Thus, leaders and followers both shape a work group's expected behavior through their goal orientation-aligned behavior. From their formal authority and position power (French & Raven, 1959), leaders are expected to shape the work group climate more directly than followers. Motivational contagion can thus be thought as the leader more directly shaping work group climate as compared to the followers, so that the given work group climate then aligns follower behavior with the leader's goal orientation-aligned behavior. Motivational contagion may not occur, however, if substitutes/neutralizers to leadership are present. Regardless of who predominantly informs the work group climate for a given goal orientation, that climate will then predict task performance (DV; Dupeyrat & Mariné, 2005; Richardson et al., 2012; Vandewalle et al., 2001), which is a group's ability to complete their duties and work expectations (Barrick et al., 1998).

To explain this process in greater detail, relevant motivational contagion literature in leader-follower contexts will be shared. Motivational contagion often occurs through goal orientations, so goal orientations will be further defined, described, and applied to organizational settings. Afterwards, a seminal study of motivational contagion among leaders and followers will be described. The theory of Substitutes/Neutralizers to Leadership will then be integrated to offer richer explanations for the gaps in this study.

Finally, the present study will test a theory of how motivational contagion occurs in a leader-follower dynamic. While each variable and relationship of this theory will be individually examined, it holistically argues that leader and follower goal orientation-aligned behaviors shape the overall work group goal orientations, which then predict work group effectiveness.

Motivational Contagion

Motivational contagion is a process whereby one individual's motivations are adopted by others (Dragoni & Kuenzi, 2012). It is a transmission that often requires repeated interactions and behavioral role modeling to share that behavior's duration, intensity, or direction (Dik & Aarts, 2007; Pinder, 2008). Thus, motivational contagion can inform how long a behavior is sustained (duration) and with what energy that behavior is sustained (intensity). Goal orientations direct behavior towards completing goals. While goal orientations will be more fully explained in the next section, they generally refer to motives to learn, perform well, or avoid performing poorly (Deshon & Gillespie, 2005). Motivational contagion can direct behavior in a shared manner when one employee shares a goal orientation with another coworker (Dik & Aarts, 2007), which can help create a shared mental model of why work is done (Pieterse et al., 2011). Such agreement can be particularly helpful because shared mental models typically assist group performance due to members engaging tasks and processes in a more coordinated manner (Bolstad & Endsley, 1999; Mathieu et al., 2000; Stout et al., 1999; Waller et al., 2004; Westli et al., 2010).

Motivational contagion has been shown to occur in a variety of ways. Top leadership, for instance, can use their authority and channels of influence to communicate

performance standards of avoiding safety issues (Tucker et al., 2016). Lower-level leaders are predicted to share their motives with followers by enacting behaviors that create an environment supporting the desired motive (Dragoni, 2005; Vandewalle et al., 2019). For example, Transactional Leadership theory emphasizes the leader's value of task performance so that followers adopt the leader's motivation toward attaining desired task performance through training (Graeff, 1983). The aptly named Transformational Leadership theory uses charisma, genuine care, and follower thought to transform followers in a desired way, such as by adopting the leader's value of learning through intellectual stimulation (Coad & Berry, 1989; García-Morales, Hamstra et al., 2014; Jiménez-Barrionuevo, & Gutiérrez-Gutiérrez, 2012).

While the exact process of how motivational contagion occurs will be further detailed in a later section, these examples illustrate the value of followers' motivational alignment with the leader (Meglino et al., 2012). Person-supervisor fit has strong ramifications for job performance, job satisfaction, organizational commitment, and tenure (Kristof-Brown et al., 2005). Fit with a leader's goal orientation, then, represents a form of alignment in the work group that helps propel performance. For example, alignment between goal orientations in work groups relates to knowledge sharing (Zhang et al., 2018). Such knowledge sharing occurs because work environment situations signal appropriate behavior of learning. Leaders represent a social or organizational cue in the external environment that informs which values should be applied to work behavior (Tett & Burnett, 2003). Thus, leaders may not change their followers' goal orientations, but signal certain goal orientations in followers that enable success with this leader by

approaching tasks in a similar manner. This argument rests on the assumption, however, that others' goal orientations can be correctly identified and understood.

Several studies find that it is possible to correctly detect others' goal orientations (Radel et al., 2010; Wild & Enzle, 2002), though this is not a universal finding (Priest & Yandell, 2018). Behavioral role modeling though Social Learning theory (Ames & Archer, 1988; Bandura, 1977; Bandura & Walters, 1977; Seijits et al., 2004) is key to enabling motivational contagion because it visibly communicates desired behaviors that match a given goal orientation. Goal orientations are actualized by behavior. It is thus plausible for leaders to share desired goal orientations with followers by modeling behaviors that match each goal orientation. For example, leaders might spread motives to learn, perform well, and avoid performing poorly by encouraging follower development, rewarding high performing followers, or punishing followers' mistakes, respectively (Dragoni, 2005). Those specific goal orientation-aligned behaviors could then encourage similar behaviors among followers - such as followers attending optional training sessions, celebrating team wins, or refusing difficult assignments, respectively. Such behaviors might then be reinforced by the leader (Morgenroth et al., 2015; Vandewalle et al., 2019), thus perpetuating an environment of that goal orientation (Dragoni, 2005). Again, leaders are not likely to cause long-term change in their followers' goal orientations, but are likely to evoke and reinforce similar goal orientations (Tett & Burnett, 2003). Motivational contagion is also not a guaranteed process because followers must observe leader behaviors (Galliani & Vianello, 2012), correctly infer their underlying motivations (Priest & Yandell, 2018), and be willing to adopt such motivations (Dragoni, 2005). Regardless, the explanation of Social Learning theory

reinforcing the environment for a given goal orientation is unique, but has yet to be empirically addressed.

Goal Orientations

While motivation can be defined as a behavior's specified duration and intensity (Pinder, 2008), goal orientations inform what directs such behavior (Dweck, 1986). Stated differently, goal orientations are individual difference variables that explain why a behavior is initiated (Vandewalle et al., 2019) and contain both a trait and state component (Dragoni & Kuenzi, 2012). Motivational contagion often occurs through goal orientations to share an understanding of why work should be completed. As previously noted, there are three main types of goal orientations: learning goal orientation (LGO), performance-prove goal orientation (PPGO), and performance-avoid goal orientation (PAGO; Dragoni, 2005).

LGO represents a motivation to engage in an activity to grow, develop new skills, and sharpen one's expertise (DeShon & Gillespie, 2005). This goal orientation is particularly relevant to leadership because it predicts leader effectiveness beyond the Big-Five (Hendricks & Payne, 2007). A leader might demonstrate LGO by encouraging followers to learn from others through collaborative problem solving. The PPGO represents a motivation to engage in an activity to demonstrate one's competence to others (DeShon & Gillespie, 2005). A leader might demonstrate PPGO by motivating followers to be the top selling work groups in their division. Finally, the PAGO represents a motivation to engage in an activity to avoid demonstrating a lack of competence to others (DeShon & Gillespie, 2005). A leader might demonstrate PAGO by using performance appraisals to address performance deficits. Each of these goal

orientations are not mutually exclusive; individuals can have varying trait-like tendencies for each one.

These three goal orientations are meaningful due to their correlates and behavioral outcomes. The LGO is positively related to learning, effort, job performance, (Dupeyrat & Mariné, 2005), academic performance (Richardson et al., 2012), creativity (Gong et al., 2009), conscientiousness (Payne et al., 2007), intellectual engagement (Greene & Miller, 1996), job satisfaction, and higher quality supervisor relationships (Janssen & Van Yperen, 2004). The PPGO is positively related to effort (Vandewalle et al., 2001), academic performance (Richardson et al., 2012), avoiding feedback (Janssen & Prins, 2007; Middleton & Midgley, 1997), and forming comparisons to others (Brett & VandeWalle, 1999). The PAGO is negatively related to effective learning strategies (Dupeyrat & Mariné, 2005), academic performance (Richardson et al., 2012), emotional stability (Wang & Erdheim, 2007), help-seeking behaviors (Middleton & Midgley, 1997), and self-efficacy (Middleton & Midgley, 1997; Vandewalle et al., 2001). Perhaps the most important connection among these findings is that goal orientations offer additional predictive validity for job performance that the classic predictors of cognitive ability and conscientiousness do not capture (Payne et al., 2007). From these findings, goal orientations remain highly relevant to organizational operations.

Due to their connections to job performance, goal orientations also have implications for organizational performance. Roughly speaking, organizational performance emerges from employees' job performance (Ostroff et al., 2003). As a result, the goal orientations of a work group should be respected due to their potential emergent effects on organizational performance. As previously explained, this emergent

process would help maximize organizational performance if goal orientations aligned with the work group's structure, employees, tasks, and systems (Pieterse et al., 2011; Nadler et al., 1992). For example, LGO might suit technological or startup organizations because they often experience quick adaptation, evolving systems, and continual task variety (Kim et al., 2003; Senge, 1990). PPGO might assist sales groups or assembly line industries because they typically aim to maximize performance over time with a relatively stable external environment (Silver et al., 2006). PAGO might fit six sigma management groups or inspection agencies well because these groups' emphasis of quality over quantity encourages them to prevent poor performance (Goh, 2002).

To perpetuate a desired goal orientation, organizations can rely upon their culture and climate (Dragoni, 2005). The organization can espouse and enact the values of a given goal orientation–such as learning, performing well, or not performing poorly–to create a climate for that goal orientation in the work group (Dragoni, 2005). The climate for learning, performing well, or not performing poorly should then create an environment that leads to attitudes and behaviors in the work group that align with that climate due to it cueing of appropriate attitudes and behaviors (Ostroff et al., 2003; Tett & Burnett, 2003; Vandewalle et al., 2019). This process illustrates a general form of motivational contagion, and it aligns goal orientations among a workforce to approach tasks in a unified way.

Dragoni & Kuenzi (2012)

With motivational contagion's relevant theory and findings now covered, it can be more thoroughly examined by summarizing findings of Dragoni & Kuenzi (2012). As a central study on motivational contagion between leaders and followers due to its solid

theoretical foundations (Dragoni, 2005), it examined the rates of motivational contagion across mechanistic and organic organizations. Mechanistic organizations are generally characterized by strict policies, directed communication, and a hierarchical structure; conversely, organic organizations are characterized by informal policies, open communication, and a horizontal structure (Fayol, 1984; Galbraith, 1995). Dragoni and Kuenzi (2012) found that organic organizations had significantly greater rates of motivational contagion for LGO, PPGO, and PAGO; leaders were far more likely to share their motivations with followers in organic organizational structures. This connection is important because leader-follower goal orientation alignment was positively related to perceived work group performance. In other words, leaders perceived that their followers were higher performing when they shared similar goal orientations, an alignment that was assisted by motivational contagion. Both trait and state goal orientations were measured. Researchers then controlled for trait goal orientations in these analyses. Thus, Dragoni and Kuenzi (2012) argued that motivational contagion of state goal orientations largely explained how leaders and followers shared similar goal orientations.

This study not only provided empirical evidence for motivational contagion, but additionally demonstrated the importance of motivational contagion with its connections to perceived work group performance (Dragoni & Kuenzi, 2012). Despite these meaningful contributions, however, there were a few limitations in the study worth discussing. For example, the process by which motivational contagion occurs could not be established. Researchers chose a meso-level scale of analysis, one that balanced the specificity of leader-follower relationships within the larger context of organizational

structure. As a result, they gained a wider understanding of motivational contagion's effects and implications, but not its mechanisms. Thus, findings illuminated differing rates of motivational contagion across organizational structures, but did not explain the specific aspects of organizational structures that moderated rates of motivational contagion. Consequently, future research is encouraged to deduce how motivational contagion occurs and what specific elements of organizational structure influence its frequency.

Uncovering this process could also amend a second limitation of Dragoni and Kuenzi's (2012) findings: lack of prescriptive power. Because the process of motivational contagion was not established, researchers could not fully equip leaders with specific directions or advice on how to share their goal orientations with followers. While this study provided greater appreciation of motivational contagion's outcomes, additional understanding is required to transform motivational contagion from a black box into a roadmap for leaders. If motivational contagion's process were identified, leaders could then apply motivational contagion to produce greater work group task performance (Dragoni & Kuenzi, 2012). While followers can be trained to simply comply with a given goal orientation, motivational contagion produces commitment to a goal orientation. Commitment assists task performance more than compliance by intrinsically motivating follower behavior (Deci & Ryan, 2010; Podsakoff et al., 1996). This connection could be particularly helpful because task performance includes many facets, such as quality of work, quantity of work, and application of knowledge to complete work. Again, additional research is needed to empirically establish this link.

Substitutes/Neutralizers to Leadership

Dragoni and Kuenzi (2012) observed that organizational structures moderated rates of motivational contagion. Organizational structures represent external variables that help determine a leader's effectiveness of shaping followers' goal orientations. Their general categorization of organizational structures as either mechanistic or organic allowed a parsimonious examination into the larger context of motivational contagion between leaders and followers. There are, however, more specific methods to assess the external environment's role on leader effectiveness, such as the theory of Substitutes/Neutralizers to Leadership (Kerr & Jermier, 1978; Howell, 1997).

The theory of Substitutes/Neutralizers to Leadership argues that there are task, follower, and organizational variables that either remove the need for (i.e., substitute) leadership or mitigate (i.e., neutralize) leadership's effectiveness (Kerr & Jermier, 1978; Howell, 1997). For example, a task-based substitute to leadership could be routine work for followers because it helps remove the need for continual task guidance from the leader. A follower-based substitute to leadership could be closely-knit, cohesive, interdependent work groups. Because of this work group's cohesive nature, the leader may not need to fulfill as many relational needs in followers. Finally, an organizational neutralizer to leadership could be physical distance between the leader and the followers. Such geographic distance requires additional communication and coordination hurdles that collectively reduce leadership's presence and impact. These examples illustrate how substitutes/neutralizers to leadership can affect both task and relational leader behaviors, mirroring the behavioral approach to leadership (Stogdill, 1974).

Substitutes/neutralizers to leadership have powerful implications for any leader-follower dynamic. Meta-analytic results indicate that these external variables predict follower outcomes–such as job satisfaction, job performance, and organizational citizenship behaviors–better than leadership behaviors (Podsakoff et al., 1996). Thus, a leader's effectiveness should be viewed in the context of organizational substitutes/neutralizers (Phaneuf et al., 2016).

Perhaps Dragoni and Kuenzi's (2012) findings could be more deeply understood in terms of substitutes/neutralizers to leadership. They operationalized the external environment by how mechanistic or organic the given organization was. Both of these organizational structures are differentiated by their degree of formalization, stability, size, autonomy, authority, etc. (Fayol, 1984; Galbraith, 1995). Each of these differences are organizational factors with implications to leader-follower dynamics (Dust et al., 2014; Kilburg & Donohue, 2014; Neubert et al., 2016; Phaneuf et al., 2016; Walter & Brunch, 2010). However, the theory of substitutes/neutralizers to leaderships concerns similar organizational factors in addition to task and follower factors that are also relevant to leadership's success. With this added coverage, it offers a more content-valid method to measure the external environment's specific role on leadership. And unlike organizational structures, substitutes/neutralizers to leadership examine variables that are directly relevant, rather than peripherally relevant, to leadership. Thus, the theory of Substitutes and Neutralizers to leadership provides a more encompassing and fitting picture of external factors moderating leadership's effectiveness in sharing motivations with followers.

The Present Study

Motivational contagion has meaningful implications for organizations. Trainers instill motives to learn in trainees (Baert et al., 2006; Radel et al., 2010), CEOs shape their employees' motives to uphold a desired value (Tucker et al., 2016), and leaders woo followers to pursue a shared purpose (Meglino et al., 2012; Northouse, 2016). Particularly for leader-follower relationships, motivational contagion is a method for leaders to potentially unify followers, thus assisting work group performance (Dragoni, 2005; Dragoni & Kuenzi, 2012; Nadler et al., 1992). Dragoni and Kuenzi (2012) made profound discoveries in motivational contagion's general context, rates, and outcomes; however, further work is still required to both identify the process by which motivational contagion occurs and to codify a more specific understanding of what external variables shape motivational contagion's success.

To amend the limitations of Dragoni and Kuenzi's study (2012) and expand upon motivation's organizational implications, the present work aims to empirically identify a process by which motivational contagion occurs in a leader-follower dynamic. Social Learning theory explains how behaviors convey a desired environment to others (Ames & Archer, 1988; Bandura, 1977; Bandura & Walters, 1977; Seijits et al., 2004), which then signals behaviors that align with that environment (Ostroff et al., 2003; Tett & Burnett, 2003). Applying Social Learning theory's process to motivational contagion in a leader-follower dynamic, leaders may advocate for a desired goal orientation by modeling behaviors to followers that exemplify that goal orientation, thus reinforcing an environment for that goal orientation (Dragoni, 2005). For example, leaders may behaviorally role model PPGO with an employee of the month reward for the highest

performing employee, thus reinforcing PPGO and high performance. The work group climate could then signal to followers which goal orientations are conducive with that environment and similarly align follower behavior with leader behavior–thus representing motivational contagion (Dragoni, 2005; Tett & Burnett, 2003). Continuing the employee of the month example, the employee of the month award could signal that PPGO is rewarded in this environment, thus encouraging similar PPGO-aligned behavior. That is, of course, assuming that substitutes/neutralizers to leadership do not prevent motivational contagion from occurring by preventing leader goal orientation-aligned behavior from shaping the work group climate (Kerr & Jermier, 1978; Howell, 1997). It would be difficult for the leader to enact this employee of the month program, for example, if the leader did not control employee rewards (thus demonstrating the neutralizer of organizational rewards not being within the leader's control). If there are abundant substitutes/neutralizers to leadership, then it will most likely be the followers, rather than the leader, who shape the work group environment for each goal orientation due to no top-down leadership pressure shaping the work group climate. Regardless, previous findings in the goal orientation literature suggest that work group LGO and PPGO should positively relate to perceived work group task performance, while the work group PAGO should negatively relate to perceived work group task performance (Dupeyrat & Mariné, 2005; Richardson et al., 2012; Vandewalle et al., 2001).

Figure 1

Predicted Process and Outcomes of Motivational Contagion

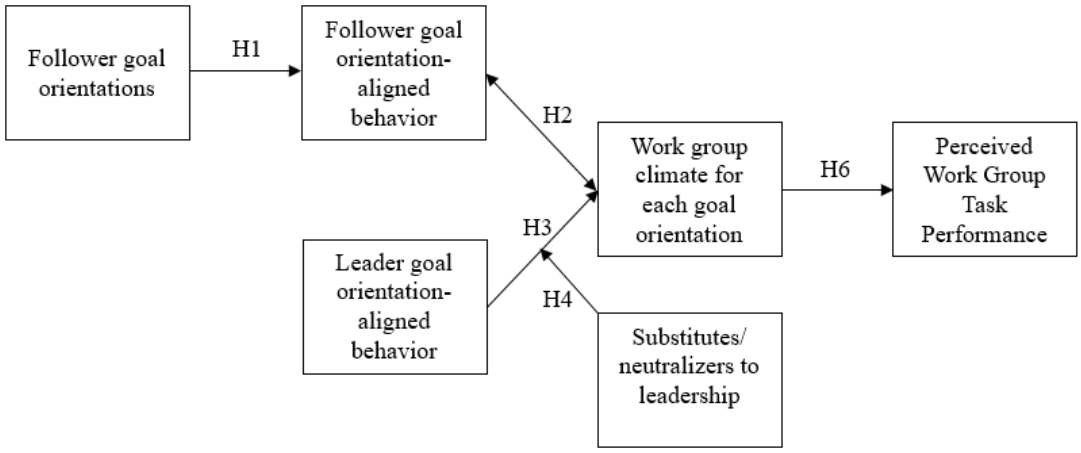


Figure 1 helps illustrate how these connections might explain the process and implications of motivational contagion. In this figure, motivational contagion is represented by the leader's goal orientation-aligned behavior, rather than the followers' goal-orientation aligned behavior, more strongly connecting to the work group climate for that goal orientation. After all, if the leader–as compared to followers–can use their goal orientation-aligned behavior to more directly shape the work group climate for each goal orientation, then the leader's goal orientations can then signal similar goal orientation-aligned behavior in followers (Tett & Burnett, 2003). In other words, motivational contagion can be thought of as the leader–rather than the followers–more directly shaping the work group climate for each goal orientation so that the given work group magnifies similar goal orientation preferences in followers. As a result, the present work operationalizes motivational contagion as a process where a leader shares his/her goal orientation preference with followers through behavioral modeling. This process is

predicted to flow top-down, from leader to follower, because it is the leader who retains the position power and formal authority to influence followers (French & Raven, 1959). From this logic, the following hypotheses are proposed:

1) Follower goal orientations will positively relate to their respective goal orientation-aligned behaviors.
    a) Follower LGO will positively relate to follower LGO-aligned behaviors.
    b) Follower PPGO will positively relate to follower PPGO-aligned behaviors.
    c) Follower PAGO will positively relate to follower PAGO-aligned behaviors.
2) Followers' goal orientation-aligned behaviors will positively relate to the work group climate for each respective goal orientation.
    a) Followers' LGO-aligned behaviors will positively relate to the work group climate for LGO.
    b) Follower' PPGO-aligned behaviors will positively relate to the work group climate for PPGO.
    c) Followers' PAGO-aligned behaviors will positively relate to the work group climate for PAGO.
3) Leader goal orientation-aligned behaviors will positively relate to the work group climate for each respective goal orientation.
    a) Leader LGO-aligned behaviors will positively relate to work group climate for LGO.

   b) Leader PPGO-aligned behaviors will positively relate to work group climate for PPGO.
   c) Leader PAGO-aligned behaviors will positively relate to work group climate for PAGO.

4) Substitutes/neutralizers to leadership will moderate the relationship between leader goal orientation-aligned behaviors and the respective work group climate for each respective goal orientation, such that more substitutes/neutralizers to leadership will decrease the aforementioned relationship's strength.
   a) Substitutes/neutralizers to leadership will moderate and weaken the relationship between leader LGO-aligned behaviors and the work group climate for LGO.
   b) Substitutes/neutralizers to leadership will moderate and weaken the relationship between leader PPGO-aligned behaviors and the work group climate for PPGO.
   c) Substitutes/neutralizers to leadership will moderate and weaken the relationship between leader PAGO-aligned behaviors and the work group climate for PAGO.

5) Leader, as compared to follower, goal orientation-aligned behaviors will more strongly relate to their work group climate for each respective goal orientation.
   a) Leader, as compared to follower, LGO-aligned behaviors will more strongly relate to work group climate for LGO.
   b) Leader, as compared to follower, PPGO-aligned behaviors will more strongly relate to work group climate for PPGO.

c) Leader, as compared to follower, PAGO-aligned behaviors will more strongly relate to work group climate for PAGO.

6) The work group climate for each goal orientation will relate to perceived work group task performance.

a) The work group climate for LGO will positively relate to perceived work group task performance.

b) The work group climate for PPGO will positively relate to perceived work group task performance.

c) The work group climate for PAGO will negatively relate to perceived work group task performance.

CHAPTER II: METHOD

Participants

For this survey-based study, only followers were sampled. From power analyses informed by the variety of modest, moderate, and strong correlations found with goal orientations in Dragoni and Kuenzi's work (2012), the present study aimed for a sample size of 300. Given these power analyses, 324 participants were digitally recruited using the Mturk online sampling platform. Regarding exclusion criteria, several attention check items were included in this study (detailed later) to ensure data quality. Form this exclusion criteria, data from 273 participants were eligible for analysis (detailed further with attention check items). Everyone who completed the survey on MTurk was compensated $1.00 for their time and effort. All participants were required to be fluent in reading English and currently living within the United States of America. Participants were also required to have worked with their leader for at least one year. They additionally needed to be in a group with at least one other follower. Participants from several industries were represented. The most common industries–information technologies, education, and construction/manufacturing–represented 41% of the sample. Followers worked for their leader for an average of 13.8 years (SD = 15.9). Participant ages ranged from 20 to 101 (M = 38.6, SD = 12.1). The total sample was composed of 60.1% men (39.9% women). The racial composition was 5.9% Asian, 15.8% Black/African American, 1.1% Latino, 76.6% White/European American, and 0.7% other. There was an average of 21.2 (SD = 13.8) followers per group. Of the groups sampled, 42.5% met in person, 28.2% met remotely, 27.8% met both in person and remotely, and 1.5% did not meet at all.

Materials

Follower Goal Orientations

All materials used in the present study are displayed in APPENDIX C. Vandewalle's (1997) thirteen-item work domain goal orientation questionnaire was used to measure LGO, PPGO, and PAGO. The LGO subscale has five items, PPGO has four items, and PAGO has four items. The measure asks participants for their level of agreement to a total of thirteen statements. Responses are measured on a 6-point Likert scale (1 = *strongly disagree*, 6 = *strongly agree*), where higher scores indicate greater amounts of that goal orientation. The measure has previously demonstrated sufficient reliability (α = .89 for LGO, α =.85 for PPGO, and α = .88 for PAGO; Vandewalle, 1997). The present study similarly found acceptable internal consistency reliability estimates for the LGO subscale (α = .82), PPGO subscale (α = .74), and PAGO subscale (α = .81). An example LGO item is "I am willing to select a challenging work assignment that I can learn a lot from." An example PPGO item is "I'm concerned with showing that I can perform better than my coworkers." An example PAGO item is "I would avoid taking on a new task if there is a chance that I would appear rather incompetent to others."

Follower Goal Orientation-Aligned Behavior

Using Dragoni's (2005) list of key behaviors for each goal orientation, researchers created a nine-item scale measuring the frequency of followers' goal orientation-aligned behaviors. Followers completed this measure by noting their level of agreement to nine statements regarding how often they demonstrate a given behavior. This measure has three items for LGO, three items for PPGO, and three items for PAGO. Responses were

measured on a 5-point Likert scale (1 = *not very often*, 5 = *very often*), with higher scores indicating greater frequency of follower goal orientation-aligned behavior. The present study found acceptable internal consistency reliability estimates for the entire measure (α = .75) in addition to the LGO subscale (α = .74), but not the PPGO subscale (α = .58) or PAGO subscale (α = .30). An example item for LGO was "[How often do you] pay close attention to your development?" An example item for PPGO was "[How often do you] accept jobs to prove yourself?" An example item for PAGO was "[How often do you] punish yourself for mistakes?"

Perceived Leader Goal Orientation-Aligned Behavior

Again, from Dragoni's (2005) list of key behaviors that exemplify each goal orientation, researchers created a nine-item scale to measure the frequency of leaders' behaviors for each goal orientation. Followers completed this measure by noting their level of agreement to nine statements regarding how often their leader demonstrates a given behavior. This measure has three items for LGO, three items for PPGO, and three items for PAGO. Responses were measured on a 5-point Likert scale (1 = *not very often*, 5 = *very often*), with higher scores indicating greater frequency of goal orientation-aligned leader behavior. The present study found acceptable internal consistency reliability estimates for the entire measure (α = .77), but not for the LGO subscale (α = .69), the PPGO subscale (α = .48), or PAGO subscale (α = .41). An example item for LGO was "[How often does your leader] pay close attention to employee development?" An example item for PPGO was "[How often does your leader] assign jobs to those who have proven themselves?" An example item for PAGO was "[How often does your leader] use punishment for mistakes?"

Followers' Perceived Work Group Climate for Each Goal Orientation

To measure how strongly each work group endorsed a given goal orientation, followers completed a modified version of Vandewalle's (1997) measure of goal orientations. Thirteen items were worded to reflect work group level perceptions of goal orientations. Mirroring Vandewalle's (1997) original measure's format, responses were measured on a 6-point Likert scale (1 = *strongly disagree*, 6 = *strongly agree*), where higher scores indicate a stronger work group preference for a given goal orientation. The present study found acceptable internal consistency reliability estimates for the entire measure ($\alpha = .85$) in addition to the LGO subscale ($\alpha = .81$), the PPGO subscale ($\alpha = .70$), and the PAGO subscale ($\alpha = .86$). An example LGO item was "My work group is willing to select a challenging work assignment that they can learn a lot from." An example PPGO item is "My work group is concerned with showing that they can perform better than each other." An example PAGO item is "My work group would avoid taking on a new task if there is a chance that they would appear rather incompetent to others."

Substitutes/Neutralizers to Leadership

To measure substitutes/neutralizers to leadership, Podsakoff and Mackenzie's (1993) 41-item measure was used. Podsakoff and Mackenzie's (1993) measure is an abbreviated version of Kerr and Jermier's (1978) original measure of substitutes/neutralizers to leadership and offers greater convergent and discriminant validity while maintaining equivalent internal consistency, nomological validity, and original subscales. All thirteen subscales of substitutes/neutralizers to leadership across both measures are as follows: (1) ability, experience, training, and knowledge, (2) professional orientation, (3) indifference toward organizational rewards, (4) subordinate

need for independence, (5) unambiguous, routine, methodologically invariant tasks, (6) task provided feedback concerning accomplishment, (7) intrinsically satisfying tasks, (8) organizational formalization, (9) organizational inflexibility, (10) advisory and staff support, (11) closely-knit, cohesive, interdependent work groups, (12) organizational rewards not within the leader's control, and (13) spatial distance between superior and subordinate.

Forty-one items on a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*) asked participants for their level of agreement to several statements about their work situation. Higher scores indicate greater presence of substitutes/neutralizers to leadership. The measure has previously demonstrated sufficient internal consistency reliability estimates with $\alpha = .79$ (Podsakoff & Mackenzie, 1993). Similarly, the present study found acceptable internal consistency reliability estimates for the entire measure ($\alpha = .83$). An example substitute item from the ability, experience, training, and knowledge subscale was "I have the ability and training to be my own boss on the job." Additionally, a neutralizer item from the spatial distance between superior and subordinate was "My supervisor and I seldom work in the same area."

Work Group Task Performance

Task performance was measured with an eight-item scale by Barrick and colleagues (1998). This scale measures eight dimensions of task performance: knowledge of tasks, quality of work, quantity of work, initiative, interpersonal skills, planning and allocation, commitment to the team, and overall evaluations of team performance. Following the recommendations of Delaney and Huselid (1996), task performance was measured by asking followers to compare their work group's performance to other work

groups performing similar tasks. This structure allowed approximately equivalent evaluations of work group performance across industry, task, and geography. Responses are measured on a 5-point Likert scale (1 = *consistently below requirements*, 5 = *consistently above requirements*), where higher scores indicate greater amounts of task performance. The measure has previously demonstrated sufficient internal consistency reliability estimates with α = .83 (Barrick et al., 1998). The present study similarly found acceptable internal consistency reliability estimates for the entire measure (α = .83). An example item is: "[Compared to other work groups doing similar work, please indicate how your work group compares with regards to] quality."

Demographics Form

As the last measure, a seven-item demographics form asked for all participants' age, sex, ethnicity, industry, how many followers are in their work group, whether the work group was meeting mostly in person or remotely, and how many years they have worked with their leader.

Attention Check Items

To evaluate participant attentiveness, 5 attention check items were included. To have their data analyzed, followers first had to correctly answer 3 out of the 4 initial attention check items. A question at the end of the study asked participants if the researchers should include their data in their analyses (*yes*, *no*). To be included in analyses, participants additionally had to answer this last item with "*yes*." Of the 324 participants sampled, 51 (15.7%) failed the attention check items and were subsequently not included in analyses.

Procedure

Before data collection occurred, IRB approval was secured. Once IRB approval was secured, the study was posted on Mturk. Participants gave informed consent and took the survey with each of its measures presented in a counterbalanced order and each item in a randomized order. However, the Demographics form was always presented last to prevent potentially confounding carryover effects. Upon completing their survey, participants were thanked, debriefed, compensated $1.00. Participants took an average of 9.9 minutes (*SD* = 8.2) to complete their surveys. The survey contained a total of 105 items.

CHAPTER III: RESULTS

Each measure's descriptive statistics and reliability estimates with Cronbach's α are displayed in Table 1 (see APPENDIX A). Collectively, these descriptive statistics of this study's measures resemble the previously published descriptive statistics for the follower goal orientation measure (Vandewalle, 1997), the substitutes/neutralizers to leadership measure (Podsakoff & Mackenaie, 1993), and work group task performance (Barrick et al., 1998). Additionally, these findings convey sufficient reliability for each previously used measure. There were, however, reliability concerns for the newly developed measures for leader goal orientation-aligned behavior and follower goal orientation-aligned behavior. While these measures demonstrated decent internal consistency reliability estimates overall (α = .75 for follower goal orientation-aligned behavior and α = .77 for leader goal orientation-aligned behavior), their subscales yielded poor reliabilities (α ranging from .30 to .74). The followers' perceived work group climate measure yielded stronger reliabilities across its three subscales (α = .81 for LOGO, α = .70 for PPGO, and α = .86 for PPGO).

Given these questionable reliabilities, a confirmatory factor analysis was conducted on each of the three measures the researchers created or modified in this study to ensure their construct validity. A three-factor structure (one factor per goal orientation) was tested for each measure, not each measure's subscale. These measures include the new follower goal orientation-aligned behavior measure, the new perceived leader goal orientation-aligned behavior measure, and the modified work group climate for each goal orientation measure. The follower goal orientation-aligned behavior measure supported a three-factor structure (χ^2 = 41.13, *df* = 24, *p* = .016, RMSEA = .051), thus demonstrating

its factorial validity. The leader goal orientation aligned behavior measure also supported a three-factor structure (χ^2 = 30.43, *df* = 24, *p* = .171, RMSEA = .031), thus demonstrating its factorial validity. Finally, the followers' perceived work group climate measure also demonstrated a three-factor structure (χ^2 = 127.25, *df* = 62, *p* < .001, RMSEA = .062), thus demonstrating its factorial validity. No items profoundly warranted deletion from these analyses, most likely due to the small number of items in each measure's subscales.

The followers' perceived work group goal orientation climate measure demonstrated sufficient reliability across subscales and factorial validity to be confidently used in addressing hypotheses. Conversely, the follower and leader goal orientation-aligned behavior measures did not largely demonstrate sufficient subscale reliabilities.

Tests of Hypotheses

Because each general hypothesis has three subcomponents, the Bonferroni adjustment will be implemented for each individual hypothesis to help combat the possibility of an inflated Type I Error rate. Thus, each hypothesis will be individually evaluated at $\alpha = .017$. The first hypothesis was that follower goal orientations would positively relate to followers' goal orientation-aligned behaviors. To evaluate this hypothesis, three Pearson correlations were conducted between followers' LGO, PPGO, and PAGO and followers' respective goal orientation-aligned behaviors. For example, followers' LGOs were correlated with their LGO behaviors. Significant positive correlations were found for LGO (*r* = .51, *p* < .001), PPGO (*r* = .56, *p* < .001), and PAGO (*r* = .31, *p* < .001). These correlations supported hypotheses 1a, 1b, and 1c.

The second hypothesis anticipated that followers' goal orientation-aligned behavior would positively relate to the work group climate for each respective goal orientation. This prediction was evaluated with three Pearson correlations connecting followers' LGO-, PPGO-, or PAGO-aligned behavior to work group climates for LGO, PPGO, and PAGO, respectively. For instance, a correlation would compare followers' PPGO-aligned behavior with followers' perceived work group climate for PPGO. Significant positive correlations were found for LGO ($r = .56$, $p < .001$), PPGO ($r = .51$, $p < .001$), and PAGO ($r = .32$, $p < .001$). These correlations supported hypotheses 2a, 2b, and 2c.

Hypothesis three predicted that leader goal orientation-aligned behaviors would positively relate to the work group's climate for each respective goal orientation. This hypothesis was evaluated with three Pearson correlations between leader goal orientation-aligned behaviors and their work group's respective climate for each goal orientation. As an example, leader PAGO behaviors were correlated with the work group climate for PAGO. Significant positive correlations were found for LGO ($r = .60$, $p < .001$), PPGO ($r = .50$, $p < .001$), and PAGO ($r = .40$, $p < .001$). These correlations supported hypotheses 3a, 3b, and 3c. These strong, positive correlations indicate the process of motivational contagion.

Hypothesis four anticipated that substitutes/neutralizers to leadership would moderate the relationship between leader goal orientation-aligned behaviors and the work group's climate for each respective goal orientation, such that more substitutes/neutralizers to leadership would decrease the aforementioned relationship's strength. This hypothesis was evaluated with three moderated hierarchical linear

regressions (detailed in Tables 2, 3, and 4). First, leader goal orientation-align behaviors for each goal orientation and substitutes/neutralizers to leadership were grand mean centered. VIF values were calculated for each of these moderated hierarchical linear regressions, and none of the VIF values indicated a multicollinearity issue. Then, leaders' LGO, PPGO, or PAGO in addition to substitutes/neutralizers to leadership were entered in the first step of each regression analysis. In the second step, the interaction term between leaders' LGO, PPGO, or PAGO and substitutes/neutralizers to leadership and was entered.

Work group climate for LGO was significantly predicted by leader LGO-aligned behaviors, substitutes/neutralizers to leadership, and the interaction term of leader LGO-aligned behaviors x substitutes/neutralizers to leadership (R^2 = .52, F(3, 267) = 96.39, p < .001). A significant positive main effect was found for leader LGO-aligned behaviors (B = .32, p < .001) and for substitutes/neutralizers to leadership (B = .69, p < .001), and these main effects were qualified by a significant interaction (B = -.21, p = .006). This interaction effect explained a significant increase in the variance of work group climate for LGO (ΔR^2 = .01, F(1, 267) = 7.64, p = .006). Thus, substitutes/neutralizers to leadership moderated the relationship between leaders' goal orientation-aligned behavior and work group climate for LGO.

Work group climate for PPGO was significantly predicted by leader PPGO-aligned behaviors, substitutes/neutralizers to leadership, and the interaction term of leader PPGO-aligned behaviors x substitutes/neutralizers to leadership (R^2 = .43, F(3, 266) = 66.08, p < .001). A significant positive main effect was found for leader PPGO-aligned behaviors (B = .27, p < .001) and for substitutes/neutralizers to leadership (B = .73, p <

.001). These main effects were not qualified by a significant interaction (B = -.22, p = .018). This interaction effect did not explain a significant increase in the variance of work group climate for PPGO (ΔR^2 = .01, F(1, 266) = 5.69, p = .018). Thus, substitutes/neutralizers to leadership did not moderate the relationship between leaders' goal orientation-aligned behavior and work group climate for PPGO.

Work group climate for PAGO could be significantly predicted by leader PAGO-aligned behaviors, substitutes/neutralizers to leadership, and the interaction term of leader PAGO-aligned behaviors x substitutes/neutralizers to leadership (R^2 = .22, F(3, 267) = 24.79, p < .001). A significant positive main effect was found for leader PAGO-aligned behaviors (B = .44, p < .001) and for substitutes/neutralizers to leadership (B = .60, p < .001). These main effects were not qualified by a significant interaction (B = .21, p = .156). This interaction effect did not explain a significant increase in the variance of work group climate for PAGO (ΔR^2 = .01, F(1, 267) = 2.02, p = .156). Thus, substitutes/neutralizers to leadership did not moderate the relationship between leaders' goal orientation-aligned behavior and work group climate for PAGO.

To better understand these interaction terms, each of these moderated hierarchical linear regressions were probed using simple slopes analysis (see Figures 1-3). Regarding LGO, low levels of substitutes/neutralizers to leadership (1 SD below the mean) produced a significant positive simple effect for leader LGO behavior (B = 0.43, p < .001); high levels of substitutes/neutralizers to leadership (1 SD above the mean) also produced a significant positive, albeit weaker, simple effect for Leader LGO behavior (B = 0.20, p = .013). From these simple effects, the relationship between leader LGO behavior and the work group climate for LGO tends to decrease in strength with an

increase in the substitutes/neutralizers to leadership. These results better explain a moderation effect, thus further supporting hypothesis 4a.

Although PPGO's initial moderation test was nonsignificant, this moderation effect was probed for the sake of completeness. Regarding PPGO, low levels of substitutes/neutralizers to leadership (1 SD below the mean) produced a significant positive simple effect for leader PPGO behavior ($B = 0.39$, $p < .001$); high levels of substitutes/neutralizers to leadership (1 SD above the mean) produced a nonsignificant positive simple effect for Leader PPGO behavior ($B = 0.15$, $p = .120$). From these simple effects, the relationship between leader PPGO behavior and the work group climate for PPGO tends to decrease in strength with an increase in the substitutes/neutralizers to leadership. But because the initial moderation analysis provided nonsignificant results, these probed analyses do not support hypothesis 4b.

PAGO's initial moderation test was also nonsignificant, but its moderation effect was probed as well for the sake of completeness. Regarding PAGO, low levels of substitutes/neutralizers to leadership (1 SD below the mean) produced a significant positive simple effect for leader PAGO behavior ($B = 0.32$, $p = .012$); high levels of substitutes/neutralizers to leadership (1 SD above the mean) also produced a significant positive simple effect for Leader PAGO behavior ($B = 0.55$, $p < .001$). From these simple effects, the relationship between leader PAGO behavior and the work group climate for PAGO tends to increase in strength with greater substitutes/neutralizers to leadership. But because the initial moderation analysis provided nonsignificant results, these probed analyses do not support hypothesis 4c. Additionally, because the PPGO and PAGO

interaction effects were both nonsignificant, their simple effects are not expected to be different from one another.

Table 2

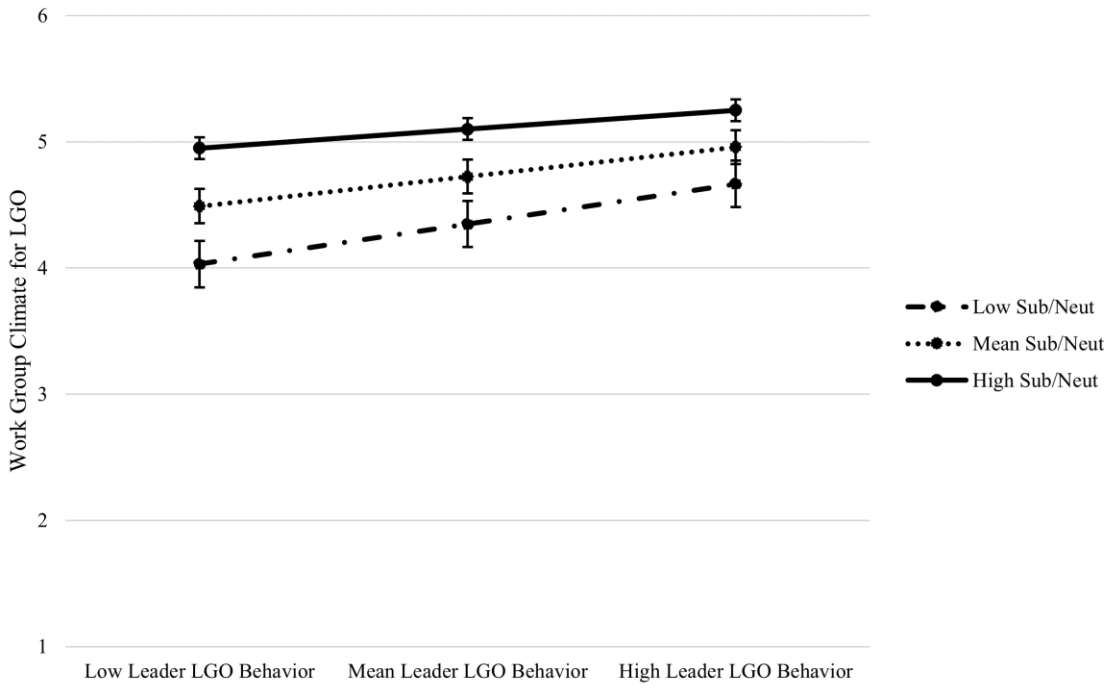
Hierarchical Linear Regression Results for LGO Work Group Climate

Variable	*B*	95% CI for *B*		*SE B*	*β*	R^2	ΔR^2	VIF
		LL	*UL*					
Step 1						.51	.51***	
Constant	4.67	4.60	4.74	0.04				
Leader LGO	0.37	0.25	0.48	0.06	.34			1.48
Substitutes	0.70	0.54	0.85	0.08	.46			1.48
Step 2						.52	.01***	
Constant	4.72	4.65	4.80	0.04				
Leader LGO	0.32	0.20	0.43	0.06	.29			1.64
Substitutes	0.69	0.54	0.85	0.09	.46			1.48
Leader LGO x Substitutes	-0.21	-0.35	-0.06	0.08	-.13			1.17

Note. Leader LGO = Leadership LGO behaviors. Substitutes = Substitutes/neutralizers to leadership. Leader LGO x Substitutes = Leader LGO behaviors by substitutes/neutralizers to leadership interaction term. $^{**}p < .01$, $^{***}p < .001$. All *p*-values less than .017 are significant; however, we may have greater confidence in correlations with *p*-values less than .001.

Figure 2

Probed Interaction Plot of the Hierarchical Linear Regression for Hypothesis 4a



Note. Error bars represent ± 1 standard error.

Table 3

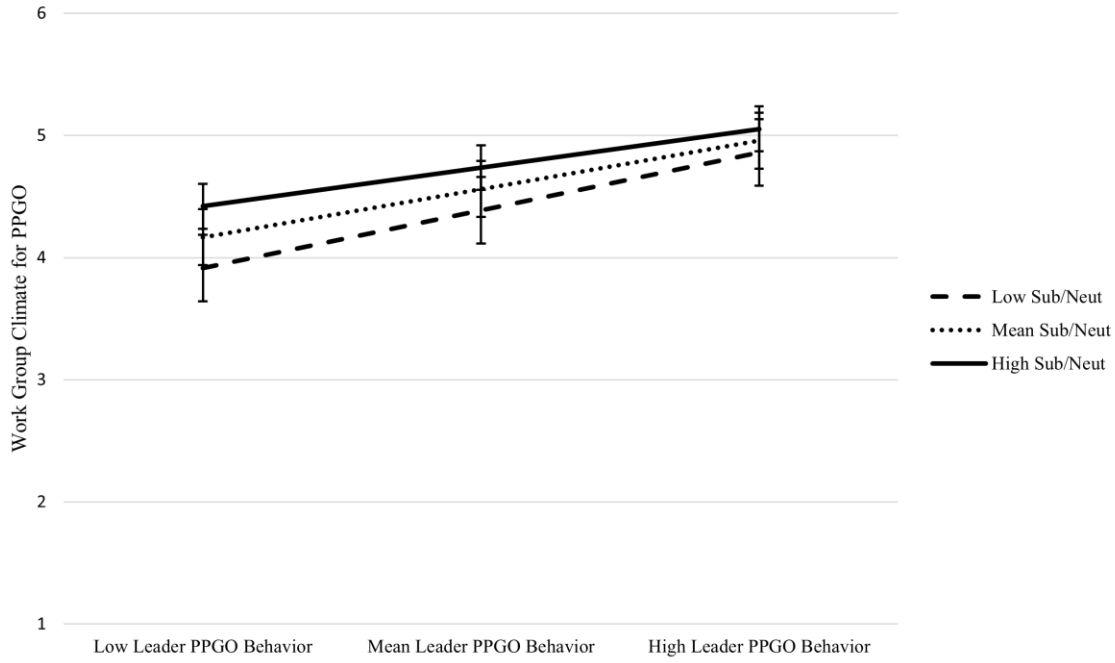
Hierarchical Linear Regression Results for PPGO Work Group Climate

Variable	*B*	95% CI for *B*		*SE B*	*β*	R^2	ΔR^2	VIF
		LL	*UL*					
Step 1						.42	.42***	
Constant	4.52	4.44	4.60	0.04				
Leader PPGO	0.30	0.16	0.44	0.07	.24			1.45
Substitutes	0.74	0.57	0.91	0.09	.48			1.45
Step 2						.43	.01***	
Constant	4.56	4.48	4.65	0.04				
Leader PPGO	0.27	0.13	0.41	0.07	.21			1.50
Substitutes	0.73	0.56	0.90	0.09	.48			1.46
Leader PPGO x Substitutes	-0.22	-0.40	-0.04	0.09	-.11			1.07

Note. Leader PPGO = Leadership PPGO behaviors. Substitutes = Substitutes/neutralizers to leadership. Leader PPGO x Substitutes = Leader PPGO behaviors by substitutes/neutralizers to leadership interaction term. ***$p < .001$. All *p*-values less than .017 are significant; however, we may have greater confidence in correlations with *p*-values less than .001.

Figure 3

Probed Interaction Plot of the Hierarchical Linear Regression for Hypothesis 4b



Note. Error bars represent ± 1 standard error.

Table 4

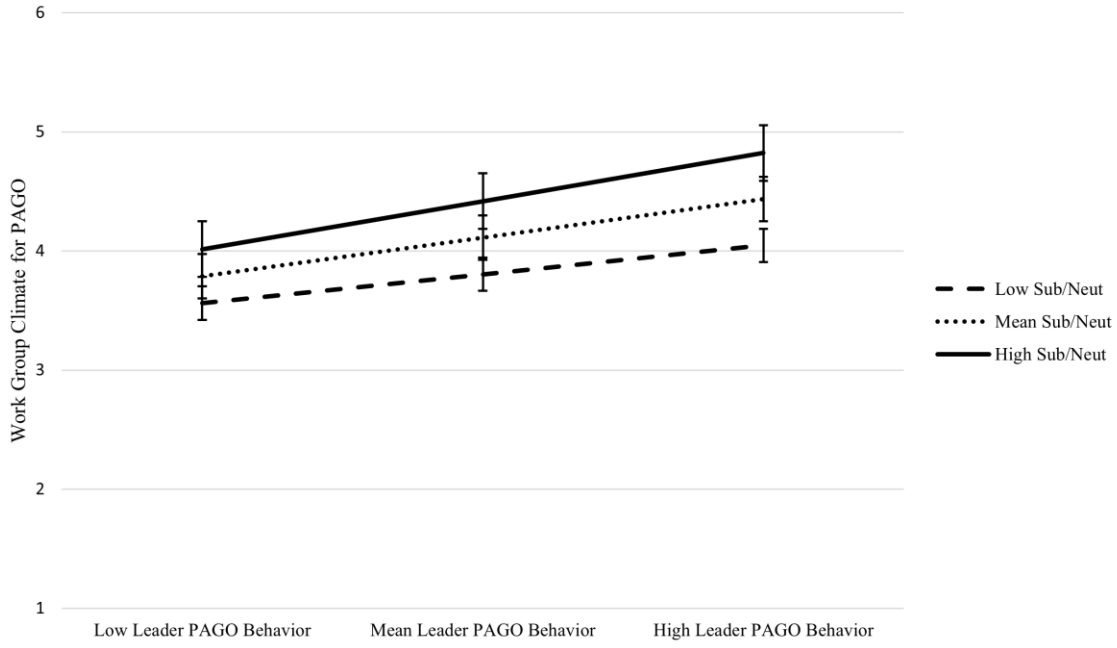
Hierarchical Linear Regression Results for PAGO Work Group Climate

Variable	*B*	95% CI for *B*		*SE B*	*β*	R^2	ΔR^2	VIF
		LL	*UL*					
Step 1						.21	.21***	
Constant	4.16	4.03	4.28	0.06				
Leader PAGO	0.43	0.22	0.63	0.11	.26			1.16
Substitutes	0.58	0.31	0.86	0.14	.27			1.16
Step 2						.22	.01***	
Constant	4.11	3.98	4.25	0.07				
Leader PAGO	0.44	0.23	0.65	0.11	.26			1.33
Substitutes	0.60	0.32	0.87	0.14	.28			1.43
Leader PAGO x Substitutes	0.21	-0.08	0.51	0.15	.08			1.59

Note. Leader PAGO = Leadership PAGO behaviors. Substitutes = Substitutes/neutralizers to leadership. Leader PAGO x Substitutes = Leader PAGO behaviors by substitutes/neutralizers to leadership interaction term. ***$p < .001$. All *p*-values less than .017 are significant; however, we may have greater confidence in correlations with *p*-values less than .001.

Figure 4

Probed Interaction Plot of the Hierarchical Linear Regression for Hypothesis 4c



Note. Error bars represent ± 1 standard error.

The fifth hypothesis stated that when compared to follower goal orientation-aligned behaviors, leader goal orientation aligned behaviors would more strongly relate to their work group climate for each respective goal orientation. To evaluate this hypothesis, three Steiger *z*-tests were conducted. Steiger z-tests compare how well two dependent correlations predict an outcome variance (Steiger, 1980). For these Steiger *z*-tests, substitutes/neutralizers to leadership were controlled for. Work group climate for LGO was predicted by follower LGO-aligned behaviors ($r(271) = .56$, $p < .001$) and by leader LGO-aligned behaviors ($r(269) = .68$, $p < .001$). These two correlations were significantly different, $z = 3.12$, $p = .003$. Steiger's *z*-test also provides the difference in R^2 between the two correlations. Leader LGO-aligned behaviors explained 14.9% more

of the variance than follower LGO-aligned behaviors in the work group climate for LGO. Work group climate for PPGO was predicted by follower PPGO-aligned behaviors ($r(269) = .51$, $p < .001$) and by leader PPGO-aligned behaviors ($r(268) = .61$, $p < .001$). These two correlations were not significantly different, $z = 2.09$, $p = .029$. Work group climate for PPGO was predicted by follower PPGO-aligned behaviors ($r(271) = .32$, $p < .001$) and by leader PAGO-aligned behaviors ($r(269) = .46$, $p < .001$). These two correlations were not significantly different, $z = 2.52$, $p = .021$. Collectively, these results supported hypothesis 5a, but not 5b or 5c.

The sixth hypothesis proposed that the work group climate for LGO and PPGO would positively relate to perceived work group task performance. It also proposed that the work group climate for PAGO would negatively relate to perceived work group task performance. To evaluate this hypothesis, three Pearson correlations compared the work group climate for LGO, PPGO, and PAGO with perceived work group effectiveness. Significant correlations were found for LGO ($r = .43$, $p < .001$) and PPGO ($r = .43$, $p < .001$), but not PAGO ($r = .07$, $p = .026$). These correlations supported hypothesis 6a and 6b, but not 6c.

CHAPTER IV: DISCUSSION

This present study was conducted to test a theory of motivational contagion between leaders and followers for three goal orientations, addressing the question "How do leaders share their motivations with followers?" Six hypotheses were proposed, each containing three sub-hypotheses. As a result, it may be effective to use each sub-hypothesis to interpret their main hypothesis for general, overarching trends that apply across goal orientations. First, it was predicted that followers' goal orientations would positively relate to their respective goal orientation-aligned behaviors, which was supported. This connection aligns with previous research showing that individual difference variables, like personality (Tett & Burnett, 2003) or goal orientations (Dragoni, 2005), can inform and direct behavior.

Hypotheses two through five might warrant more cautious interpretations given their use of the behavioral goal orientation measures, which demonstrated insufficient subscale reliability. Hypothesis two anticipated that followers' goal orientation-aligned behavior would positively relate to the work group climate for each respective goal orientation, which was supported. This similarity between individual group members' motivations and the group's perceived motivations suggests a fair degree of person-group fit (Kristoff-Brown et al., 2005), which can be helpful in ensuring a work group's continued viability (Barrick et al., 1998). Actions speak volumes, and followers can use their goal orientation-aligned behavior to sculpt their group's motivational approach to work. Even though this motivational contagion process is not conscious or volitional, it can still enact group processes.

Hypothesis three predicted that leader goal orientation-aligned behaviors would positively relate to the work group's climate for each respective goal orientation, which was also supported. This is expected given that leaders ultimately attempt to influence their group of followers (Northouse, 2016) and can do so by sharing their personal motivations (Dragoni, 2005). But findings suggest that the leader's LGO-aligned behaviors, as compared to PPGO- or PAGO-aligned behaviors, most strongly predicted its respective work group climate for that goal orientation. And this pattern is evident across most analyses; LGO tends to produce the strongest relationships between leaders, followers, and work groups. Perhaps this trend exists because LGO is an individual difference variable that assists leader development (Avolio & Hannah, 2008; Culbertson & Jackson, 2016) and impacts leader success. Leaders with a strong LGO seek feedback and training opportunities to further enhance their leadership skills. With greater leadership skills, these leaders may be more capable to influence followers and share their LGO.

Hypothesis four proposed that substitutes/neutralizers to leadership would moderate the relationship between leader goal orientation-aligned behaviors and the work group's climate for each respective goal orientation, such that more substitutes/neutralizers to leadership would decrease the aforementioned relationship's strength. This hypothesis was supported for LGO, but not for PPGO or PAGO. Probing the interaction effects of leader goal orientation-aligned behaviors with substitutes/neutralizers to leadership demonstrated conflicting findings. With greater substitutes/neutralizers to leadership, the relationship weakened between leader LGO-aligned behavior and work group climate for LGO. This trend was also found for leaders'

PPGO-aligned behaviors and work group climate for PPGO. However, greater substitutes/neutralizers to leadership strengthened the relationship between leader PAGO-aligned behaviors and work group climate for PAGO. Perhaps with greater redundancies and barriers to successful leadership, it becomes too difficult for leaders to effectively share their motivations to learn. And with greater redundancies and barriers to successful leadership, perhaps leaders are more taxed to influence followers, thus more readily accepting PAGO goals of merely "staying afloat." Given these levels of substitutes/neutralizers to leadership, leader goal orientations could then shape the work group climate for each goal orientation through motivational contagion. These findings should remind leadership researchers of how profoundly substitutes/neutralizers to leadership can remove the need for and reduce the effectiveness of leadership (Kerr & Jermier, 1978; Podsakoff & Mackenzie, 1993). As a result, it is useful for organizations to enhance leader effectiveness not only directly (such as with leader development training) but also indirectly (such as by instilling substitutes to leadership and removing neutralizers to leadership). To better represent the leadership dynamic, leadership researchers must consider the leader, the followers, and the situation (Northouse, 2016). Substitutes/neutralizers to leadership help provide specific context about what situational factors are relevant to the leadership dynamic and should thus be measured in leadership research to portray a more realistic and encompassing representation of leadership processes.

The fifth hypothesis predicted that leader goal orientation-aligned behaviors, as compared to follower goal orientation-aligned behaviors, would more strongly relate to their work group climate for each respective goal orientation. This hypothesis was

partially supported, suggesting that leaders' formal position power and channels of influence give them disproportionately more powerful methods to shape work group motivations (French & Raven, 1959). Again, LGO–as compared to PPGO or PAGO–yielded the strongest findings. Similar to the ideas expressed previously, leaders with a strong LGO may undergo further development to become more competent leaders (Avolio & Hannah, 2008; Culbertson & Jackson, 2016) to thus better influence followers by sharing their LGO. Because none of the results indicated that followers, as compared to leaders, more directly shape work group climate for a given goal orientation, it is evident that leaders retain disproportionately more power in shaping work group experiences. This finding is likely due to the formal authority, channels of influence, and referent power (French & Raven, 1959) which only leaders have.

The sixth hypothesis proposed that the work group climate for LGO and PPGO would positively relate to perceived work group task performance. It also proposed that the work group climate for PAGO would negatively relate to perceived work group task performance. This hypothesis was partially supported and serves as a reminder of how motivations are a relevant variable for understanding group dynamics and group effectiveness (Dragoni, 2012). Particularly for learning organizations, work group climate for LGO may assist organizational performance (Kim et al., 2017). But perhaps any organization could benefit from work group climates for PPGO since that climate encourages reaching performance expectations (Vandewalle et al., 2019). Work group climate for PAGO tends to produce the weakest connections to group performance (Dragoni & Kuenzi, 2012), possibly because success often requires innovation and

adaptation (Kim et al., 2017; Motowildo, 2012), which PAGO avoids (Vandewalle, 1997).

These findings demonstrated several consistencies and inconsistencies with previous literature. Regarding consistencies, goal orientations are useful constructs given their connections to behavior. The present study found strong, positive connections between each follower goal orientation and their respective goal orientation-aligned behavior. This idea demonstrates how individual difference variables, such as goal orientations, help inform work behavior (Tett & Burnett, 2003). Additionally, motivational contagion (as operationalized as a process whereby a leader shares his/her goal orientation preference with followers through behavioral modeling) was found to be a useful mechanism for leaders to sculpt a desired work group climate, confirming previous theoretical propositions provided by Dragoni (2005). Her basic argument of how leaders enact motivational contagion focused on Leader-Member Exchange theory. Because the present study observed motivational contagion without the boundaries of one particular leadership theory, it is possible for Dragoni's (2005) theory to extend to other leadership approaches. Substitutes/neutralizers to leadership were also found to reduce the input of leadership. This finding is a humble reminder to leadership researchers to measure such relevant situational variables to represent a fuller and more realistic picture of the leadership dynamic. And perhaps most importantly, the present work confirmed how each goal orientation varies in terms of their effectiveness. The goal orientation literature generally finds that LGO and PPGO tend to produce the best performance outcomes across settings, with PAGO producing noticeably worse results (Dupeyrat & Mariné, 2005; Richardson et al., 2012). The present study found work group climates for

both LGO and PPGO to relate to perceived work group task performance positively and strongly. Conversely, work group climate for PAGO did not bear significant connections to perceived work group task performance. As a result, it is typically in work groups' best interests to strive to improve and perform well as compared to avoid performing poorly.

Despite these consistencies, there were several inconsistencies with previous literature. Most notably, the present study's variables were correlated with each other much more strongly and positively than in previous studies. For example, Vandewalle's (1997) work goal orientation measure originally produce a correlation of $r = .07$, $p > .05$ between LGO and PPGO. Using the same scale, the present study found this correlation among followers to be $r = .56$, $p < .001$. This is just one example that illustrates a larger trend in all of the present study's data. Furthermore, these findings may not fully generalize to previous literature due to the unique time in which data was sampled. Data collection occurred about one year into the COVID-19 pandemic, which drastically transitioned the nature of work to emphasize more remote work. Within the present sample, 57.5% of employees worked remotely either fully or partly. This metric widely differs from 2017-2018, when only 25.0% of employees worked remotely either fully or partly (Bureau of Labor Statistics). As a result, the present study's findings may not align with previous literature because the inherent nature of work profoundly and suddenly changed.

Limitations

Several theoretical, practical, and statistical limitations may help explain these inconsistencies with previous literature. Regarding theoretical limitations, motivational contagion may be artificially reported due to the Attraction-Selection-Attrition model

(Schneider, 1983; Schneider et al., 1995). Based on the similar-to-me effect, the Attraction-Selection-Attrition model argues that individuals seek out and remain in organizational settings that share their values. This framework can be applied to both work groups and leaders. As a result, the similarity between follower and work group goal orientations in addition to follower and leader goal orientations could have been due to employees seeking organizations or work relationships with those who already share goal orientations. If a similarity between goal orientations exists, then the follower might remain in the current position. If a dissimilarity between goal orientations exists, then the follower might exit the current position. As a result, it may not be motivational contagion that results in shared motivations; instead, it may be the Attraction-Selection-Attrition model prompting homosocialization. Expanding upon this model, a given organization may select employees based on desired goal orientations. In this way, it is the selection system–rather than motivational contagion–that produces work groups of similarly motivated employees. Another theoretical limitation worth considering is content deficiency. This study examined group outcomes in terms of work group task performance. While this is a perfectly rational approach, there are many other group variables that we did not examine, such as group member satisfaction, possibility for continued member viability (Sundstrom et al., 1990), and organizational citizenship behaviors (Smith et al., 1983). Thus, the present study paints an incomplete picture of the group outcomes that motivational contagion could produce. And the present study may not have properly conceptualized motivational contagion because motivational contagion was not directly measured. The present work instead inferred rates of motivational

contagion by comparing the relationships between motivational variables. Without a time-series design using repeated samplings, that theoretical loop is larger than desired.

A practical limitation worth considering is that motivational contagion may not be necessary. Instead of subtly influencing follower goal orientations through behavior and repeated interactions, it may be more effective to explicitly train followers in the desired goal orientation. Previous research on mindsets, for example, demonstrates how a quick training session can produce prolonged effects in trainees' motivations or approaches to learn (Yeager, 2019). Other training sessions could reasonably target PPGO or PAGO for long-lasting behavioral change. The effectiveness of these training sessions brings into question the comparative utility of motivational contagion. The present study found that leaders can shape the work group climate for a given goal orientation through motivational contagion to a moderate degree, but such motivational contagion likely takes more time to take effect as compared to a brief training session. Furthermore, to the authors' knowledge there has been no previous work comparing the efficacy of purposeful motivational change efforts against the efficacy of naturally occurring motivational contagion. As a result, we cannot conclude whether solely "hoping" for motivational contagion (without making concerted efforts) could still share one's desired motivation with followers. Intentionality is a meaningful component of leader behavior because it helps direct such behavior for greater success. This study did not empirically assess the utility of such intentionality.

Several statistical limitations must also be recognized. Most notably, the newly developed measures for follower and leader goal orientation-aligned behavior produced undesirable subscale reliabilities. This insufficient subscale reliability is likely because

each subscale in these measures only has three items. Aggregating all items across subscales greatly improves these measures' reliabilities, and factor analysis confirmed a three-factor structure for both measures. However, their poor subscale reliabilities make it difficult to interpret several of the present study's hypotheses. Additionally, the exceedingly strong correlations and lack of significant negative correlations in Table 5 (see APPENDIX B) suggest biased data due to common method variance. While Spector (2006) argued that common method variance often holds a negligible role on study findings, he did highlight some variables that tend to produce common method variance. One such variable is social desirability. Many of the variables in this study are personally relevant and desirable, such as one's motivations to learn, perform well, or avoid performing poorly. As a result, it is possible for social desirability to have artificially inflated the correlations between measured variables in this study though common method variance.

Future Directions

Future studies could address these limitations to further understand the process of motivational contagion between leaders and followers. Researchers can employ a different sampling technique of observing full work groups in a parent organization. Over time, they could measure followers' initial goal orientations when entering the work group or leader-follower relationship to help control for the effects of the Attraction-Selection-Attrition model. Measuring entire work groups could also enable future work to triangulate data between leaders and work group members, such as through social network analysis. Additionally, future work can empirically compare the efficacy of motivational contagion and motivation-based training interventions as approaches to

share a desired goal orientation with followers. Doing so would test which approach more effectively instills or elicits a desired goal orientation in followers. It would also inform the efficacy of formally training or instilling a desired goal orientation and then using motivational contagion to informally reinforce that goal orientation. Measurement-focused researchers should also develop and validate better measures for follower and leader goal orientation-aligned behavior to assist this line of inquiry. With better measurements, future work could also test the validity of the present study's model (Figure 1) with structural equation modeling. The efficacy of different group configurations of goal orientations could also be tested. For example, is a group whose members have a predominant LGO more successful than a group whose members have a diversity of goal orientations? Different task and environmental demands could be examined as moderator variables for this relationship. Through this future work, researchers can measure and control for relevant variables, such as social desirability, to help prevent artificially inflated relationships through common method variance.

Conclusion

While the present work's limitations demand caution, its results could nonetheless help holistically illustrate how leaders share their motivations with followers. Dragoni's (2005) original model of motivational contagion between leaders and followers focused on Leader-Member Exchange theory. While it offered insight as to how this process occurs with Leader-Member Exchange theory, it did not explain a general process of motivational contagion that can be applied to multiple leadership theories and approaches. As a result, the present work offers a more generalizable depiction of motivational contagion's process between leaders and followers. And with some

replication efforts, this line of research could prescribe specific behavioral guidelines for leaders to effectively share a desired goal orientation with their followers. Because behaviors can be observed and communicated, workplace leaders might be receptive to implementing these behavioral recommendations.

Ultimately, motivational contagion of goal orientations is a meaningful approach to help enhance group operations and outcomes. Far too often group members' motives differently direct behavior. Like rowers paddling in different directions, such misalignment often results in wasted effort and poorer results. Because leadership is based on the approach of shared goals between leaders and followers (Northouse, 2016), leaders can employ motivational contagion to align their followers in the pursuit of a shared goal. With greater understanding of how that general process occurs between leaders and followers, organizations can more effectively and efficiently pursue their strategic goals. We hope this work shares our motivation to further learn about motivational contagion, so future research may uncover more of its process and applications.

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APPENDICES

APPENDIX A: Table 1

Descriptive Statistics for the Present Study's Variables

Variable	*n*	*M*	*SD*	*α*	Response Scale
1. Follower LGO	272	4.68	.85	.82	6-point
2. Follower PPGO	273	4.46	.92	.74	6-point
3. Follower PAGO	273	4.17	1.10	.81	6-point
4. Follower LGO behavior	273	3.93	.74	.74	5-point
5. Follower PPGO behavior	272	3.84	.72	.58	5-point
6. Follower PAGO behavior	273	3.75	.65	.30	5-point
7. Leader LGO behavior	273	3.91	.75	.69	5-point
8. Leader PPGO behavior	273	3.92	.66	.48	5-point
9. Leader PAGO behavior	273	3.78	.70	.41	5-point
10. Work group LGO climate	273	4.68	.81	.81	6-point
11. Work group PPGO climate	272	4.53	.82	.70	6-point
12. Work group PAGO climate	273	4.16	1.17	.86	6-point
13. Sub/neut to leadership	271	4.91	.54	.83	7-point
14. Perceived task performance	273	3.82	.61	.83	5-point

APPENDIX B: Table 5

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Follower LGO	--													
2. Follower PPGO	.56	--												
3. Follower PAGO	.03	.42	--											
4. Follower LGO behavior	.51	.35	-.02	--										
5. Follower PPGO behavior	.45	.56	.12	.57	--									
6. Follower PAGO behavior	.41	.42	.31	.36	.39	--								
7. Leader LGO behavior	.52	.37	.08	.59	.47	.25	--							
8. Leader PPGO behavior	.47	.40	.14	.54	.54	.32	.63	--						
9. Leader PAGO behavior	.41	.39	.30	.38	.40	.38	.46	.51	--					
10. Work group LGO climate	.77	.56	.10	.56	.52	.44	.60	.51	.38	--				
11. Work Group PPGO climate	.59	.71	.34	.39	.51	.42	.42	.50	.43	.64	--			
12. Work group PAGO climate	.12	.43	.72	.03	.15	.32	.12	.20	.40	.13	.42	--		
13. Sub/neut to leadership	.67	.53	.36	.52	.51	.48	.57	.56	.53	.66	.61	.41	--	
14. Perceived task performance	.47	.30	-.01	.60	.49	.34	.53	.49	.39	.43	.43	.07	.52	--

Correlation Matrix for the Present Study's Variables

Note. The Bonferroni adjustment was implemented to make the alpha level set at .017 for all correlations. All correlations greater than ±.15 are significant at $p < .017$ and all correlations greater than ±.20 are significant at $p < .001$. All *p*-values less than .017 are significant; however, we may have greater confidence in correlations with *p*-values less than .001.

APPENDIX C: Materials List

Follower Goal Orientations

Citation: VandeWalle, D. (1997). Development and validation of a work domain goal orientation instrument. *Educational and Psychological Measurement, 57*(6), 995-1015.

Measure description: three subscales measure both followers' and leaders' goal orientations.

Scale: 6-point Likert scale.

1	2	3	4	5	6
strongly disagree	*disagree*	*somewhat disagree*	*somewhat agree*	*agree*	*strongly agree*

Higher scores indicate: greater amounts of a given goal orientation.

Previous reliability: α = .89 for LGO, α = .85 for PPGO, and α = .88 for PAGO.

Scoring instructions: calculate the average score for each of the three subscales.

Possible score ranges: 1-6.

Total number of items: 13.

Introduction prompt: Please indicate your level of agreement with the following statements.

LGO1: I am willing to select a challenging work assignment that I can learn a lot from.
LGO2: I often look for opportunities to develop new skills and knowledge.
LGO3: I enjoy challenging and difficult tasks.
LGO4: For me, development of my work ability is important enough to take risks.
LGO5: I prefer to work in situations that require a high level of ability and talent.
PPGO1: I'm concerned with showing that I can perform better than my coworkers.
PPGO2: I try to figure out what it takes to prove my ability to others at work.
PPGO3: I enjoy it when others at work are aware of how well I am doing.
PPGO4: I prefer to work on projects where I prove my ability to others.
PAGO1: I would avoid taking on a new task if there was a chance that I would appear rather incompetent to others.
PAGO2: Avoiding a show of low ability is more important to me than learning a new skill.
PAGO3: I'm concerned about taking on a task at work if my performance would reveal that I had low ability.
PAGO4: I prefer to avoid situations at work where I might perform poorly.

Followers' Perceived Work Group Climate for Each Goal Orientation

Citation: adapted from VandeWalle, D. (1997). Development and validation of a work domain goal orientation instrument. *Educational and Psychological Measurement, 57*(6), 995-1015.

Measure description: three subscales measure followers' perceptions of their work group climate for each goal orientations.

Scale: 6-point Likert scale.

1	2	3	4	5	6
strongly disagree	*disagree*	*somewhat disagree*	*somewhat agree*	*agree*	*strongly agree*

Higher scores indicate: greater amounts of climate for a given goal orientation.

Previous reliability: NA.

Scoring instructions: calculate the average score for each of the three subscales.

Possible score ranges: 1-6.

Total number of items: 13.

Introduction prompt: The following items ask about your work group. Thus, briefly think of each member in your work group, and consider how your work group is as an overall entity. Please indicate your level of agreement with the following statements.

LGO1: My work group is willing to select a challenging work assignment that they can learn a lot from.

LGO2: My work group often looks for opportunities to develop new skills and knowledge.

LGO3: My work group enjoys challenging and difficult tasks.

LGO4: For my work group, development of their work ability is important enough to take risks.

LGO5: My work group prefers to work in situations that require a high level of ability and talent.

PPGO1: My work group is concerned with showing that they can perform better than their coworkers.

PPGO2: My work group tries to figure out what it takes to prove their ability to others at work.

PPGO3: My work group enjoys it when others at work are aware of how well they are doing.

PPGO4: My work group prefers to work on projects where they prove their ability to others.

PAGO1: My work group would avoid taking on a new task if there was a chance that they would appear rather incompetent to others.

PAGO2: Avoiding a show of low ability is more important to my work group than learning a new skill.
PAGO3: My work group is concerned about taking on a task at work if their performance would reveal that they had low ability.
PAGO4: My work group prefers to avoid situations at work where they might perform poorly.

Perceived Leader Goal Orientation Behavior

Citation: created from Dragoni, L. (2005). Understanding the emergence of state goal orientation in organizational work groups: the role of leadership and multilevel climate perceptions. *Journal of Applied Psychology, 90*(6), 1084.

Measure description: using the list of goal orientation-aligned behaviors provided by Dragoni (2005), these items measure how effective followers believe their leaders and how effective leaders believe they are with these behaviors.

Scale: 5-point Likert scale.

1	2	3	4	5
very ineffective	*somewhat ineffective*	*neither effective nor ineffective*	*somewhat effective*	*very effective*

Higher scores indicate: greater effectiveness of goal orientation-aligned leader behavior.

Previous reliability: NA.

Scoring instructions: calculate the average for the nine items.

Possible score ranges: 1-5.

Total number of items: 9.

Follower introduction prompt: How effective is your leader at…

Leader introduction prompt: How effective is your workplace leader at…

LGO1: paying close attention to employee development?
LGO2: making resources that facilitate learning?
LGO3: assigning jobs to stretch and develop employees?
PPGO1: paying close attention to who has demonstrated high levels of ability?
PPGO2: explicitly measuring employee performance relative to others?
PPGO3: assigning jobs to those who outperform others?
PAGO1: paying close attention to mistakes and subpar performance?
PAGO2: using punishment for mistakes as a primary source of feedback?
PAGO3: assigning jobs to those who will not fail?

Perceived Follower Goal orientation Behavior

Citation: created from Dragoni, L. (2005). Understanding the emergence of state goal orientation in organizational work groups: the role of leadership and multilevel climate perceptions. *Journal of Applied Psychology, 90*(6), 1084.

Measure description: using the list of goal orientation-aligned behaviors provided by Dragoni (2005), these items measure how effective followers believe they are with these behaviors.

Scale: 5-point Likert scale.

1	2	3	4	5
very ineffective	*somewhat ineffective*	*neither effective nor ineffective*	*somewhat effective*	*very effective*

Higher scores indicate: greater effectiveness of goal orientation-aligned leader behavior.

Previous reliability: NA.

Scoring instructions: calculate the average for the nine items.

Possible score ranges: 1-5.

Total number of items: 9.

Follower introduction prompt: How effective are you at…

LGO1: paying close attention to your development?
LGO2: making resources that facilitate your learning?
LGO3: assigning jobs to stretch and develop yourself?
PPGO1: paying close attention to your demonstration of ability?
PPGO2: explicitly measuring your performance relative to others?
PPGO3: taking jobs when you can outperform others?
PAGO1: paying close attention to your mistakes and subpar performance?
PAGO2: using punishment for your mistakes as a primary source of feedback?
PAGO3: taking jobs when you are unlikely to fail?

Perceived Work Group Task Performance

Citation: Barrick, M. R., Stewart, G. L., Neubert, M. J., & Mount, M. K. (1998). Relating member ability and personality to work-team processes and team effectiveness. *Journal of Applied Psychology*, *83*(3), 377–391.

Measure description: Perceived work group effectiveness was operationalized as a combination of task performance, member satisfaction, and possibility for continued member viability. Task performance was evaluated by followers and leaders by subjectively comparing the present work group's task performance to other work group's task performance.

Scale: 5-point Likert scale.

1	2	3	4	5
consistently below requirements	*often below requirements*	*meeting requirements*	*often above requirements*	*consistently above requirements*

Higher scores indicate: greater amounts of task performance.

Previous reliability: α = .83.

Scoring instructions: calculate the average for the eight items.

Possible score ranges: 1-5.

Total number of items: 8.

Leader's Introduction prompt: Compared to other work groups doing similar work, please indicate how your work group of followers compares with regards to…

Follower's Introduction prompt: Compared to other work groups doing similar work, please indicate how your work group compares with regards to…

TASK1: knowledge of tasks.
TASK2: quality of work.
TASK3: quantity of work.
TASK4: initiative.
TASK5: interpersonal skills.
TASK6: planning and allocation.
TASK7: commitment to the team.
TASK8: overall work group performance.

Substitutes/Neutralizers to Leadership

Citation: Podsakoff, P. M., MacKenzie, S. B., & Fetter, R. (1993). Substitutes for leadership and the management of professionals. *The Leadership Quarterly*, *4*(1), 1-44.

Measure description: measured variables that either make leadership unnecessary (substitutes) or ineffective (neutralizers). The original 41-item measure with 13 subscales was shorted to only include items from 4 subscales. The two substitutes for leadership subscales include ability, experience, training, and knowledge in addition to unambiguous, routine, methodologically invariant tasks. The two neutralizers for leadership subscales include organizational rewards not within the leader's control and spatial distance between superior and subordinate.

Scale: 7-point Likert scale.

1	2	3	4	5	6	7
strongly disagree	*disagree*	*somewhat disagree*	*neither agree nor disagree*	*somewhat agree*	*agree*	*strongly agree*

Higher scores indicate: greater amounts of substitutes/neutralizers to leadership.

Previous reliability: α = .82 overall (subscales range from .64 to .92).

Scoring instructions: Calculate the average across all items.

Possible score ranges: 1-7.

Total number of items: 41.

Introduction prompt: Please indicate your level of agreement to the following statements.

AETK1: I have the ability, experience, training, or job knowledge to act independently of my immediate supervisor in performing my duties.
AETK2: I have all the required ability and experience to be my own boss on the job.
AETK3: I have enough training and job knowledge to handle most situations that I face in my job.
PROF1: I am a member of a professional group whose standards and values guide me in my work.
PROF2: I am a member of a professional association with which I strongly identify.
PROF3: I am a member of a professional association which has a code of ethics that I believe is important to follow.
INDIFF1: I cannot get very enthused about the rewards offered in this organization.
INDIFF2: This organization offers attractive opportunities to its employees. (reverse scored)
INDIFF3: I don't feel that the rewards I receive in this organization are worth very much.
NIND1: When I have a problem, I like to think it through myself without help from others.

NIND2: It is important for me to be able to feel that I can do my job without depending on others.
NIND3: I prefer to solve my work problems by myself.
ROUT1: Most of the work I do in my job is somewhat repetitive in nature.
ROUT2: I perform the same types of activities every day in my job.
ROUT3: My job does not change much from one day to the next.
TASKFB1: My job provides me feedback on how well I am doing.
TASKFB2: My job provides me with the feeling that I know whether I am performing well or poorly.
TASKFB3: My job provides me with the opportunity to find out how well I am performing.
INSAT1: I get a great deal of personal satisfaction from the work I do.
INSAT2: I like the tasks that I perform at work.
INSAT3: My job is personally very rewarding.
FORM1: My job responsibilities are clearly specified in writing.
FORM2: Written schedules, programs, and work specifications are available to guide me in my work.
FORM3: My duties, authority, and accountability are documented in policies, procedures, and job descriptions.
FORM4: Written rules and guidelines do not exist to direct my work efforts. (reverse scored)
INFLEX1: In this organization, violations of rules and procedures are not tolerated.
INFLEX2: In this organization anytime there is a policy in writing that fits some situation, everybody has to follow that policy very strictly.
INFLEX3: The policies and rules in this organization are followed to the letter.
INFLEX4: This organization takes a relaxed approach to rules and policies. (reverse scored)
ADVSTF1: In my job, I work closely with staff personnel who are based outside my work unit or department.
ADVSTF2: I often need to obtain information, data, and reports from staff members outside my department to complete my work.
ADVSTF3: Support from staff personnel outside my department is critical to success in my job.
COHES1: The members of my work group are cooperative with each other.
COHES2: My work group members know that they can depend on each other.
COHES3: The members of my work group stand up for each other.
NOCTRL1: My chances for a pay raise depend on my immediate supervisor's recommendation. (reverse scored)

NOCTRL2: I am dependent on my immediate supervisor for important organizational rewards. (reverse scored)
NOCTRL3: My immediate supervisor's recommendation is necessary for me to be promoted. (reverse scored)
SPAT1: On my job my most important tasks take place away from where my immediate supervisor is located.
SPAT2: My immediate supervisor and I are seldom in actual contact or direct sight of one another.
SPAT3: My supervisor and I seldom work in the same area.

Demographics Form
Citations: NA.
Measure description: measured relevant participant demographic information.
Scale: Mixture of free response and multiple choice.
Higher scores indicate: NA.
Previous reliability: NA.
Scoring instructions: Calculate average age and tenure with leader/follower. Calculate the percentage breakdown of ethnicity and sex.
Possible score ranges: NA
Total number of items: 5
Introduction prompt: NA.

DEM1: What is your age to the nearest year? [Multiple choice slider: 18-120]
DEM2: What is your sex? [Multiple choice: man, woman, other]
DEM3: What is your ethnicity? [Multiple choice: Asian, Black/African American, Latino, White/European American, and other.]
DEM4: In what industry do you work (construction, education, agriculture, etc.)? [Free response]
DEM5: How many followers are in your work group? [Multiple Choice slider]
DEM6: Is your work group currently meeting in-person or remotely? [Multiple checkbox]
DEM7: To the nearest year, how long have you worked with your leader? [Multiple choice slider: less than 3 months-more than 65 years]

Attention Check Items
Citation: NA.
Measure description: measured participant attentiveness and quality of data.
Scale: dependent on the measure in which they were included.
Higher scores indicate: NA.
Previous reliability: NA.
Scoring instructions: To have their data analyzed, participants first had to correctly answer 3 out of the 4 initial attention check items. A final attention check item at the end of the study asked participants if the researchers should include their data in their analyses (*yes*, *no*). To be included in analyses, participants additionally had to answer this last item with "*yes*."
Possible score ranges: NA
Total number of items: 5
Introduction prompt: NA.

AC1: Please mark "Agree" for this item. (Placed in the follower goal orientation measure)
AC2: Please mark "Very Ineffective" for this item. (Included in the follower goal orientation-aligned behavior measure)
AC3: Please mark "Somewhat Agree" for this item. (Included in the perceived work group goal orientation climate measure)
AC4: Please mark "Neither Disagree Nor Agree" for this item. (Included in the substitutes/neutralizers to leadership measure)
AC5: Should we include your data in our analyses? [Multiple choice: yes, no]
AC6: Why should researchers not include your data in their analyses? [Free response; only included if they marked "no" for AC5]

APPENDIX D: Table 6

Number of Items Per Measure

Measure	Number of Items
Leader or follower goal orientations	13
Followers' perceived work group goal orientation	13
Perceived leader goal orientation-aligned behavior	9
Perceived follower goal orientation-aligned behavior	9
Perceived work group task performance	8
Substitutes/neutralizers to leadership	41
Demographics form	7
Attention check items	5
Total	105

APPENDIX E**: Institutional Review Board Approval**

8. DECLARATION

PI Status:

☒ Student – Complete 11.1 and have faculty advisor/sponsor must fill 11.2
☐ Faculty/Staff – Complete 11.1 AND 11.2

11.1 Primary Investigator's Assurance

I, **Reed Priest**, hereby certify that	Indicate acceptance by entering initials
1. As the PI of this study, I assure that this application packet has been fully completed by providing all essential and required information.	RP
2. The information provided for this exemption request is accurate to the best of my knowledge.	RP
3. All of the investigators have completed all research-specific CITI training; I will inform the IRB immediately if training deficiencies should occur.	RP
4. Email addresses and contact information for all investigators are given.	RP
5. Surveys, questionnaires, tests, interview forms etc. have been included.	RP
6. Recruitment materials (OR/and) signup information for using Psychology research pool is completed *(Enter N/A if not applicable).*	RP
7. A filled informed consent form is attached.	RP
8. PDF scan of all signed permission letters for researching at outside institutions (e.g., schools), is provided on official letterhead (Enter N/A if not applicable).	N/A
9. Once this protocol has been approved,	
• I will make every effort to protect the safety and welfare of the participants. I will inform the IRB immediately of any adverse events to the participants.	RP
• Any deviations from the proposed methods will be reported immediately and changes will be implemented only after IRB approval.	RP
• I will submit a status report of this study if directed by the IRB.	RP
• I am aware of potential liabilities and sanctions for failure to adhere to my proposed protocol from IRB and non-IRB entities within MTSU and I agree to comply with those requirements.	RP
• I assure that the data collected during this study and other records will be stored in a secure place within MTSU, such as the office of an MTSU faculty member. I also assure that the records will be stored for at least three years after the active data collection has been ceased.	RP

PI[14] Reed Whitfield Priest Date: 11/19/2020

[14]Student PIs must complete this section using their MTSU FSA account

11.2 Faculty Investigator's Assurance

This section must be completed by an MTSU faculty member regardless if the PI is a student or not. An MTSU faculty member must read and endorse this section if the applicant is a student. Preferably use your MTSU FSA account when completing this section. If using a home computer, please ensure that you use a licensed version of MS Office for capturing the identity of the signee. Please visit the Faculty Information page http://www.mtsu.edu/irb/FAQ/Faculty.php before signing off this form.

I, **Richard G. Mofett III**, hereby certify that	Indicate acceptance by entering initials
1. This project will be carried out under my direct supervision	RGM
2. The investigators are competent and professional to work with human subjects and they comply with all of the provision required for the approval of this protocol	RGM
3. I have read this application thoroughly and I attest to its scientific merit.	RGM
4. I am fully aware of the activities to be performed under this exemption request.	RGM
5. All of the investigators, including myself, have completed all research-specific CITI training; I will inform training deficiencies to the IRB immediately.	RGM
6. Once this protocol has been approved,	
• I will report any significant or adverse events related to this study to the IRB within 72 hours of when I become aware of such incidents. I will also report breaches, such as, negligence or compromise to participant confidentiality or study-related injuries/discomforts to the participant.	RGM
• I take full responsibility to review any future changes or alterations to this study before a formal request is submitted to the IRB. Any deviations from the proposed methods will be reported immediately and changes will be implemented only after IRB approval	RGM
• I am aware of potential liabilities and sanctions for failure to adhere to my proposed protocol from IRB and non-IRB entities within MTSU and I agree to comply with those requirements[16]	RGM

- I assure that the data collected during this study and other records will be stored in a secure place in my Office or in my Department Office. I also assure that the records will be stored for at least three years after the active data collection has been ceased. RGM
- I agree to meet with the investigators on a regular basis to monitor the study progress and compliance. I will retain records of such meetings, like email transactions and other verifiable communication records. I will also document specific conversations that would entail the welfare of the participants and other courses of actions RGM

Faculty[15] Richard G. Moffett III rmoffett Date: 12/01/2020

[15]Preferably complete this section using using your MTSU FSA account

[16]Faculty Sponsor Responsibilities - http://www.mtsu.edu/irb/FAQ/Faculty.php

INSTRUCTIONS FOR SUBMISSION:

- This application and support documents must be submitted by the faculty member who signed Section 11.2.
- Send all documents as separate files but in a single email to irb_submissions@mtsu.edu
- If multiple emails had to be sent due to memory insufficiency, then provide a proper explanation in each email
- Submit all IRB forms in their original MS Word format – DO NOT CONVERT TO PDF

The REVIEW STEPS

- The Office of Compliance (OC) will issue an IRB ID if the submission is determined to be complete
- If the application is incomplete, then the IRB request will be returned with no action
- Once the OC confirms that the application is complete, a reviewer will inspect the application packet and will enter any comments or request for additional information in the appropriate space provided within this form
- This form will be sent back to the investigators with reviewers' comments
- The investigators will receive any review comments, request for clarifications or recommended revisions along with other concerns. The review process is iterative and it depends on how swiftly the investigators are able to address all reviewers' concerns.
- Once a final approval has been issued, a "locked" version of this form will be sent to the investigators to be used as a guideline for their study.

12. REVIEWER SECTION
(Office Use Only)

Exempt Pre-Review Checklist	**Y**	**N**	**N/A**	**Reviewer Comments**
Application is complete	☐	☐	☐	.
Informed consent is complete	☐	☐		
Recruitment/Debriefing is provided	☐	☐	☐	
Link for web-based research – TRAINING REQD	☐	☐	☐	
CITI Training Complete (PI, FA, Co-Investigators)	☐	☐	☐	
Application Appendices	☐	☐	☐	
Faculty Endorsement	☐	☐	☐	
Off-site Permission Letters	☐	☐	☐	
Research Instruments and Tools (i.e. Surveys)	☐	☐	☐	
Grant Information/Source of Funding Provided	☐	☐	☐	
Participant Pool	☐	☐	☐	
Sample Size	☐	☐	☐	
Restrictions	☐	☐	☐	

Exempt Designation Criteria	Y	N	Reviewer Comments
Subjects are considered “Vulnerable” according to OHRP’s subpart definition [Examples – prisoners, cognitively impaired, seriously ill, pregnant women, minors (other than educational research)]	☐	☐	
Behavioral information collected in this study could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the individual's financial standing, employability or reputation	☐	☐	
Data involves sensitive information or personal aspects of the subject's behavior (drug/alcohol use, illegal conduct, sexual behavior, mental health, etc.)	☐	☐	
Except for researching normal education practices, will this study involve minors (under 18)?	☐	☐	
The subjects may be exposed to discomfort or stress beyond the levels encountered in daily life	☐	☐	
Video- or audiotaping is conducted	☐	☐	

IRB ACTION

Review Summary:

		Yes	No
a.	Is the purpose of this protocol clear?	☐	☐
b.	Did you find the recruitment practice to be proper?	☐	☐
c.	Does the proposed inducement sound reasonable?	☐	☐
d.	Are the researchers' experience adequate?	☐	☐
e.	Is there enough evidence that the subjects are adequately informed?	☐	☐
f.	Are the informed consent process/documents appropriate?	☐	☐
g.	Will the researchers protect the participants' confidentiality?	☐	☐
h.	If risks are necessary, are the minimized to the maximum extent?	☐	☐
i.	Does this study result in benefits that outweigh the potential risks?	☐	☐
j.	Did the researcher(s) clearly explain the data usage?	☐	☐

If there is any reason why you may not be able to check "Yes" for all of the above questions, then please summarize your concern below:

Applicability:
Choose the criteria for IRB exemption: Choose an item.

Correspondences - Enter review correspondences and paste email threads in the space below:

Recommendation:
Level of Risk: ☒ Lower than Minimal ☐ Greater than Minimal

Exemption Decision ☒ Exempt ☐ Revise and Resubmit
☐ Defer (Expedited/Full) ☐ Not a "research"

Moses Prabu 12/08/2020

(Reviewer's OC ID) **(Date of Determination)**