HOW COLLECTIVE MOTIVATIONAL STRATEGIES INFLUENCE LEADER EMERGENCE IN SMALL GROUPS

by

MARY SELDEN

(Under the Direction of Adam S. Goodie)

ABSTRACT

Much is known about the traits and behaviors that influence leader emergence. Less is known about how specific types of situational contexts can impact *why* individuals with certain traits emerge as leaders within their respective groups. In this study, the situational context (collective regulatory focus or CRF) was manipulated to assess whether group members with matching motivational orientations (chronic regulatory focus) were more likely to be perceived as leaders within those groups. Drawing from regulatory fit theory, individuals with specific types of chronic regulatory focus should "fit" as leaders in groups where the CRF matches their predisposition. Furthermore, groups should also prefer and prioritize tasks that fit with their collective goal pursuit strategy. Results showed that promotion-focused individuals were somewhat more likely to emerge in promotion CRF contexts and prioritize tasks that matched their CRF. However, these differences were weak. Motivation to lead and personality traits like extraversion and conscientiousness were found to have the greatest impact on leader emergence across CRF conditions. Limitations of the study and potential future directions are discussed.

INDEX WORDS: leader emergence, regulatory focus, regulatory fit, collective regulatory focus, prototypicality, motivation to lead, small groups

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CHAPTER 1

INTRODUCTION

While much is known about the traits, behaviors, situational constraints that influence leader emergence (e.g., DeRue, Nahrgang, Wellman, & Humphrey, 2011; Ensari, Riggio, Christian, & Carslaw, 2011; Vroom & Jago, 2007), there is still much to learn about how and why leaders emerge in groups. In this paper, I draw on theories of social identity, social categorization, and leader categorization (Hogg & van Knippenberg, 2003; Tajfel & Turner, 1979; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) to assert that emerging leaders embody group motives that are developed based on the context, and their function is to assist in pursing goals in ways that are sanctioned by the groups' established norms. I propose that regulatory focus theory (Higgins, 1997) may provide insights into the mechanisms underlying leader emergence under different normative conditions. Furthermore, emerging research on collective regulatory focus can be used to predict certain norms that occur in different situational contexts, as well as the type of leader preferred in those situations. .

Specifically, when a context (the situation and goal) is framed to evoke a particular motivational orientation (either prevention or promotion focus), this should create a collective or shared regulatory focus orientation in groups (CRF; Levine, Higgins, & Choi, 2000; Sassenberg & Woltin, 2008), which becomes a normative social context that guides group behavior. Members who better fit with the group's CRF (i.e., who behave in ways that are consistent with the goals, needs, and expectations of the group) should feel more "right" (via regulatory fit; Higgins, 2005) and emerge as leaders of their groups. Furthermore, based on regulatory focus

theory and the effects that regulatory focus orientations have on individual behavior, performance, and values across tasks (e.g., Friedman & Forster, 2001; Lanaj, Chang, & Johnson, 2012; Wallace & Chen, 2006), I expect this CRF to affect the group's preferences as well, where groups will prefer and prioritize different aspects on a collaborative, multifaceted group task based on their group's CRF.

Understanding Leader Emergence in Groups: Group Prototypicality and Group Normative Contexts

Our understanding of leadership has evolved drastically in recent decades. Both the construct of leadership and the impact that leadership has on subordinates, groups, and organizational outcomes are complex, and continue to change with time (Avolio, Walumbwa, & Weber, 2009; Chemers, 2000; Day, Gronn, & Salas, 2006). Effective leadership affects organizational outcomes, and continues to be cited as a necessity for success (Hogan, Curphy, & Hogan, 1994; Kaiser, Hogan, & Craig, 2008). Leadership has been studied at the individual, team, and organizational levels because it impacts outcomes across all levels of organizations (DeChurch, Hiller, Murase, Doty, & Salas, 2010).

Current theories of leadership now emphasize how leadership is socially constructed. Leadership is conferred through others—one cannot be a leader without the acceptance and support of followers (Bresnen, 1995; Lord, Foti, & De Vader, 1984). Leadership can occur in the formal sense of individuals having designated authority over others (via their position in the team or organization) or through informal consensus when no leader is formally designated (Carter, DeChurch, Braun, & Contractor, 2015; Pielstick, 2000). Organizations are increasing their use of autonomous work teams, and many of these teams operate without formal leadership entirely or with minimal supervision ("leaders" who are not part of the team's daily operations; Morgeson,

DeRue, & Karam, 2010). While formal leaders are embedded within the structure of the organization, and their authority is legitimized from the organization, informal leaders tend to emerge based on interactions with others (e.g., Pielstick, 2000; Taggar, Hackett, & Saha, 1999). Their power and influence comes solely from the groups' willingness to follow their lead (e.g. Hollander, 1958, 1992a, 1992b).

Much has been discovered about the traits and abilities of individuals who emerge as leaders, as well as the situational contexts that influence leader emergence (for recent reviews and discussions, see DeRue et al., 2011; Ensari et al., 2011; Judge, Bono, Ilies, & Gerhardt, 2002; Vroom & Jago, 2007; Zaccaro, 2007). However, there is still much to learn about the mechanisms underlying this process of leader emergence. One potentially fruitful avenue that is beginning to garner interest is how motivational strategies—both at the individual and group levels—may create differential conditions that facilitate or hinder the effectiveness of leaders with different leadership styles. From this, we may be able to gain insight into the conditions under which different leaders emerge—based on the needs and norms of the groups in which they are members.

Research on social identity theory and social categorization theory, and related discussions of leader categorization and implicit leadership theories, provide insight into how and why leader emergence occurs. Social identity theory (Tajfel & Turner, 1979) and social categorization theory (Turner et al., 1987) both stress the importance of how shared group identities influence individual and group behavior. According to these theories (e.g., Hogg, Abrams, Otten, & Hinkle, 2004; Hogg & Reid, 2006; Hornsey, 2008), people categorize others into groups based on information they observe in a process called social categorization. The categories they produce are endowed with meaning based on social comparisons, which

emphasize different characteristics of each category in order to differentiate the groups from one another. People also self-categorize and identify with specific groups (referred to as social identification). The more they identify with a specific group, the more likely they will attribute shared group characteristics (the "social identity" created based on group membership) to themselves and allow group norms to guide their behavior.

The social identity is embodied by a prototype, a socially-constructed entity that reflects how an ideal member of that group should be or act. Social identification deemphasizes personal identities (creating a depersonalization effect), and makes the group's motives, goals, and norms more salient. Thus, through the process of social and self-categorization, individuals create social identities. Memberships in different groups can come to define aspects of the self, and the prototypes for each group are used as a benchmark for appropriate actions because they reflect group norms. Group interactions make prototypes highly salient, and members' behaviors are evaluated against the prototype (Hogg et al., 2004). Prototypes and norms help make group members' interactions more predictable, and potentially less awkward and embarrassing (Feldman, 1984). Most importantly, the development of social identities and norms allow for group goals to supersede individual goals, which (1) helps ensure the group's continued existence, (2) motivates individuals toward collective goal pursuit, and (3) increases the likelihood that group goals are met.

These social identities and categorization processes have been applied and extended to the study of leadership (Hogg & van Knippenberg, 2003; Hogg, 2001; van Knippenberg & Hogg, 2003). The social identity theory of leadership claims that the most influential members of the group are individuals who are seen as embodying the group's shared identity (Ellemers, De Gilder, Haslam, Gilder, & Haslam, 2004; Hogg, 2001). As such, group members who are more

prototypical tend to be perceived as leaders of those groups (van Knippenberg, van Knippenberg, & van Dijk, 2000; for review see van Knippenberg, van Knippenberg, De Cremer, & Hogg, 2004), especially when the groups have strong and cohesive identities (Fielding & Hogg, 1997; Hogg et al., 2006). Prototypical leaders are likely to emerge and be perceived as effective leaders because they identify strongly with their groups (Hogg et al., 2004; van Knippenberg, 2011). They tend to behave and think in ways that are consistent with their groups' norms, which makes them role models for "correct" behavior (van Knippenberg & Hogg, 2003). They are also perceived as being more invested in their groups and their groups' goals, and thus are more likely to be supported and trusted (Hogg, van Knippenberg, & Rast, 2012; van Knippenberg & Hogg, 2003). Thus, this work suggests members of a group who facilitate the group's pursuit of its collective goals in ways that are consistent with the group's established norms should be preferred as leaders.

A separate, but related, perspective also provides support for leadership as a socially constructed phenomenon influenced by follower perceptions: implicit leadership theories. Leader categorization theory and implicit leadership theories both posit that individuals have certain expectations of who a leader is and how a leader should act across many situations (Lord et al., 1984; Phillips & Lord, 1981). Even as early as childhood (Keller, 2003), people develop implicit ideal representations (which are also referred to as prototypes) through interactions with parents, employers, and other role models. Similar to social categorization theory, individuals judge both themselves and others against this prototype to determine whether they themselves or someone else fits in their category of a "leader." However, unlike social categorization theory, implicit prototypes are not based on shared group membership; they are based on the context in which the leader is being evaluated (Giessner, van Knippenberg, & Sleebos, 2009).

Common among all of the literature discussed so far is the assumption that leaders emerge because they fulfil the needs of the groups in which they work. Leaders who "fit" with the expectations of followers, both by matching leadership expectations and by embodying the prototypes and norms of the groups' in which they reside, should be preferred as leaders within those groups. This is consistent with previous discussions of team leadership as an output produced by team processes, which assert that the development of different social identities in groups may facilitate different types of leaders to emerge in those groups (Day, Gronn, & Salas, 2004).

While prototypicality may influence which members are preferred as leaders (particularly when group members strongly identify with their social identity), leader emergence also requires that potential leaders accept the role and responsibility that the group is bestowing upon them (DeRue & Ashford, 2010). Unlike formal leaders, whose positions within an organization explicitly require managerial or supervisory responsibilities, informal leaders must also be willing to accept the responsibility bestowed by the group. Having a motivation to lead is necessary for seeking any leadership position (Luria & Berson, 2013), but individuals without formal authority are unlikely to become leaders of their groups if they do not show some desire to lead (Chan & Drasgow, 2001). Motivation to lead (MTL) reflects people's willingness to try leadership roles, seek out leadership development opportunities, and continually grow as a leader. People high in MTL tend to view themselves as having leadership characteristics. Chan and Drasgow (2001) differentiate three different factors in motivation to lead. People who enjoy leading and prefer to lead tend to be high on affective MTL. People who lead out of a sense of duty or responsibility tend to be high on social-normative MTL. People who lead without thought to the potential personal costs or benefits to leading tend to be high on noncalculative

MTL. All three factors of MTL (as well as the higher order "general" MTL construct) have been related to leader emergence. For example, affective MTL predicts leader emergence in leaderless group discussions, and social-normative MTL predicts leader emergence in long-term (14 week) project teams (Hong, Catano, & Liao, 2011). General MTL also indirectly affects informal leader emergence through teamwork behaviors (Luria & Berson, 2013).

Regulatory Focus Theory

Effective groups must be motivated to complete their tasks and reach collective goals. While social identity and social categorization theory provide insight into how groups initially coalesce toward collective action, they do not indicate which norms are developed and enforced, nor how these normative contexts aid in in reaching the group's goals. To better understand how groups can be motivated, it is essential that we understand people's basic, naturally occurring motivational tendencies (their predisposition toward specific motivational traits), as well as how context influences those motivational tendencies (how situational factors influence motivational states). One theory of motivation has been fruitful in understanding why individuals are motivated toward certain goals and outcomes, and the strategies they use to reach those goals, is regulatory focus theory (Higgins, 1997). Extensions on this theory have also been applied to group motivations (e.g., Beersma, Homan, Van Kleef, & De Dreu, 2013), which can be used to bridge the gap between group norm development in general and the development of specific group norms that facilitate goal pursuit in different contexts.

Regulatory focus theory posits two separate motivational systems that influence what goals people are motivated to reach, as well as how they pursue those goals (Higgins, 1997; Higgins et al., 2001). The two systems are referred to as promotion-focus and prevention-focus. Both occur at the trait and state levels, and develop based on individuals' subjective

interpretations of success or failure while pursuing goals. Promotion-focused individuals care about nurturance needs, rewards (presence or gain vs. absence or non-gain), growth and aspirations, and tend to use approach or eager strategies to reach their goals. Prevention-focused individuals care about survival needs, punishments (presence or loss vs. absence or non-loss), "oughts" and responsibilities, and tend to use avoidance or vigilant strategies. These motivational orientations have been shown to affect risk preferences (Scholer, Zou, Fujita, Stroessner, & Higgins, 2010; Zou, Scholer, & Higgins, 2014), reasoning (Hong & Lee, 2008), strategy preference during goal pursuit (Freitas, Liberman, Salovey, & Higgins, 2002) and performance (Shah, Higgins, & Friedman, 1998) at both the trait (dispositional) and state (situational) levels.

Due to the preferences produced by differences in regulatory focus orientations, it is unsurprising to find that when the context (strategy of goal attainment, etc.) aligns itself with individuals' regulatory preference, people tend to experience "fit" (Higgins, 1997, 2002, 2005). Regulatory fit increases individuals' confidence in their decisions, as well as their evaluation of how correct their decisions are (Higgins, 2005). It also leads to greater motivation and effort as they pursue their goals (Johnson, Smith, Wallace, Hill, & Baron, 2015). When information is presented in a way that matches people's dominant regulatory focus, people preferentially attend to and prefer that information (Wang & Lee, 2006), and rate the information as more favorable and persuasive (Lee & Aaker, 2004).

During the proliferation of regulatory focus and fit research in a variety of domains related to individual level attitudes, affect, cognitions, and behavior, some researchers set out to establish that regulatory focus could extend to groups ("collective regulatory focus" or CRF). One study found that regulatory focus could be primed at the group level based on the reward structure of the task, as well as produce performances differences at the group level (Levine et

al., 2000). Using an ambiguous-stimulus memory task, "strategic orientations" (induced regulatory focus) become shared among group members over many trials, as evidenced by the convergence of individual responses over time. Remarkably, these results were found despite the fact that individuals just stated their opinions aloud. Though they were given a goal based on group outcomes, the actions required from each individual in the group were minimal.

Regulatory focus also influences risky decision making in groups (Florack & Hartmann, 2007). As with the previous study, groups' regulatory focus orientation were primed by the reward structure of the task they were given, and group performance was calculated by aggregating individual performances. Group decisions, like individual decisions, were more risk averse in the prevention condition compared to the promotion condition. Similarly, another study primed group membership through mottos that reflected either a promotion or prevention orientation (Faddegon, Scheepers, & Ellemers, 2008). They found that individual performance showed liberal biases on a signal detection task when both the participants' chronic regulatory focus and their induced collective regulatory focus was promotion-oriented; a conservative bias was found when both their chronic and collective regulatory focus were prevention-oriented. These results were moderated by group identification, such that the more individuals identified with their in-group, the stronger the biases were. These results show that (1) collective regulatory focus can influence individual behavior and (2) stronger identification with the group is important. However, they do not show how CRF influences group outcomes.

To date, four studies have assessed the effects of regulatory focus on groups of individuals interacting to complete a group task. Fit between team members' chronic regulatory focus and their positions when playing table football (as either offense or defense) lead to better performance in terms of both team ranking and average scores per game (Memmert et al., 2015).

Dimotakis, Davison, and Hollenbeck (2012) found that how teams were structured interacted with the regulatory focus of the team's goals (primed using scenarios with promotion/gain vs. prevention/nonloss objectives) to influence team performance on a military-themed, distributed dynamic decision-making simulation task, as well as satisfaction with their team overall. Prevention tasks lead to better performance and higher satisfaction on tasks that were more "functional" (interdependent and narrower in scope), while promotion tasks lead to better performance and higher satisfaction on "divisional" tasks (less interdependent and broader in scope). However, for team performance, the interaction become nonsignificant when overall team positive affect was included in the model. Only positive affect was related to both performance and satisfaction. This was the first study to show that a collective regulatory focus, framed using team goals, could influence both group performance and satisfaction with the group.

Beersma et al. (2013) assess how the reward structures interacted with the regulatory focus of teams to influence a variety of team-based outcomes: work engagement, error intolerance, coordination, and team performance. Rewards were given to either teams (high outcome interdependence) or to individuals (low outcome interdependence) with the best performance on a similar distributed dynamic decision-making simulation task as used in Dimotakis et al.'s (2012) study. Regulatory focus was induced based on the framing of the task instructions, where the prevention groups' objectives were described in terms of safety and security needs and promotion groups' objectives were described in terms of growth and advancement needs. The results showed that when rewards were based on team performance (and not individual performance), prevention groups reported greater work engagement (at the team level), lower error intolerance (at the team level), more effective coordination, and better

overall performance. Promotion-focused teams were not influenced by outcome interdependence.

Finally, one study assessed the effects of team sub-cultures and CRF on teams' task and creative performance (Shin, Kim, Choi, & Lee, 2015). CRF was measured via questionnaire in existing teams in a variety of organizations, whose members held a variety of job positions and different levels in each organization. Certain team cultures were hypothesized to influence team performance through the behavioral norms (CRF) of the teams. They found that teams who reported cultures characterized by efficiency, rules, and stability ("internal process" team culture) and cultures characterized by cohesion, employee participation, and teamwork ("human relations" team culture) had prevention-focused norms. Team prevention focus had significant direct effects on team task performance, while internal process and human relations cultures had indirect effects on task performance through team prevention focus. Internal process team culture also had a direct effect on team task performance.

There were no significant effects on team creative performance. In contrast, teams who reported cultures that valuing entrepreneurial behaviors and were characterized by risk-taking and innovation ("open system" team culture) had promotion-focused norms. Team promotion focus had significant direct effects on team creative performance, while open system team cultures had an indirect effect on task creative performance. There were no significant effects on team task performance. Thus, this study shows that CRF manifests at the team level, orienting and coordinating group members' efforts, even when the tasks and goal are not directly framed as either promotion or prevention. Specifically, their results are consistent with literature on regulatory focus at the individual level showing that promotion-focus facilitates creative goals, while prevention focus facilitates other goal pursuits (e.g., Friedman & Forster, 2001). These

results were found even when controlling for team size, number of years the teams have worked together, the types of tasks the teams generally worked on together, task interdependence, and leader's servant leadership behaviors.

Thus, regulatory focus affects individual behavior and group processes and performance in a variety of ways. Collective regulatory focus in particular acts as a norm or normative context by providing a shared goal for members to pursue, and coordinating team members efforts toward reaching the goal.

Regulatory Focus in the Workplace

Multiple reviews and meta-analyses have been published assessing how regulatory focus and regulatory fit can be applied in the workplace, and how regulatory focus is related to leadership in particular (Gorman et al., 2012; Johnson et al., 2015; Lanaj et al., 2012). Leaders are tasked with conveying the broader goals of organization (provide vision), and often assign work and monitor progress (set goals). Leaders must be able to clearly communicate these expectations, and they need to be able to do so in such a way as to increases each individual's motivation toward collective goals (Berson, Halevy, Shamir, & Erez, 2015).

Regulatory focus theory has provided insights into the mechanisms by which leaders can affect employees' motivations. Across studies, employees' chronic promotion and prevention foci have been shown to both mediate and moderate the effects of leadership styles and behaviors on employee affect and behaviors. For instance, the effects of ethical leadership on commitment and extra-role behaviors was mediated by both follower prevention and follower promotion focus—but only when the leader and followers had strong relationships (i.e., high leader-member exchange; Neubert, Wu, & Roberts, 2013). Employee work prevention focus (assessed using a work-specific scale the authors developed and validated) fully mediated the

relationship between initiating structure behaviors and commitment and extra-role behaviors, while employee work promotion focus partially mediated the relationship between servant leader behaviors and commitment and extra-role behaviors (Neubert, Kacmar, Carlson, Chonko, & Roberts, 2008).

Similarly, follower prevention focus was found to moderate the effects of self-sacrificing leader behaviors on follower prosocial work behaviors (including cooperation and organizational citizenship behaviors; De Cremer, Mayer, van Dijke, Schouten, & Bardes, 2009). Follower promotion focus moderated the relationship between perceived transformational leadership and follower work engagement (Moss, 2009). In virtual teams, employee promotion focus (along with spatial distance) moderated the relationship between visionary leadership and job satisfaction, while prevention focus (with spatial distance) moderated the relationship between visionary leadership and work engagement (Whitford & Moss, 2009). Employees in differently located teams who were highly promotion focused felt more job satisfaction when their leaders were visionary. When employee promotion focus was low, visionary leadership was negatively or unrelated to job satisfaction. However, employee promotion focus did not moderate the relationship between visionary leadership and job satisfaction in teams that were in the same location: Visionary leadership predicted more job satisfaction regardless of employee promotion focus. Visionary leadership was positively related to work engagement only when employees were low in prevention focus and in different locations or high in prevention focus and in the same location.

Based on this and other research, Kark and van Dijk (2007) propose a model in which leaders' chronic regulatory focus influences their own behaviors through individuals motivations to lead (Chan & Drasgow, 2001), which then influences the situational regulatory focus of their

followers (at both the individual and group levels). These have further effects on individual and group level outcomes. At the individual level, leader regulatory focus (through their own and their followers' behaviors) should influence follower affect, emotions, and behaviors; this relationship should be moderated by followers' chronic regulatory focus. At the group level, those relationships should fostering different organizational cultures. In their model, Kark and van Dijk (2007) acknowledge the role of organizational context, which can prime situational regulatory focus changes in leaders. Leader situational regulatory focus, they posit, moderates the relationship between leaders' motivation to lead and leaders' behaviors.

They hypothesize that organizations that are dynamic and change-oriented will induce more promotion-orientations in their leaders, which will increase leaders' transformational and charismatic behaviors towards their followers. Transformational leader behaviors will then prime individual followers and groups to become more situationally promotion focused. In contrast, organizations that are stable, traditional, and bureaucratic will induce more prevention-orientations in their leaders, which will increase leaders' transactional and monitoring behaviors towards their followers. Transactional leader behaviors will then prime individual followers and groups to become more situationally prevention focused. In the cases where leaders' and followers' chronic regulatory focus coincides with the primed situational regulatory focus, the relationships described above should be strengthened (i.e., fit will occur).

Gap in the Literature

The literature to date does not address how regulatory focus could relate to emerging leader processes. However, these studies, in addition to the Kark and van Dijk (2007) model, provide evidence as to why and how regulatory focus may produce differential preferences in leadership emergence. At the heart of this argument is regulatory fit. In the studies described

above, the leadership styles and behaviors assessed (for example, self-sacrificing, visionary) were moderated by the regulatory focus of the followers. Another way of looking at these results shows that when the leaders' behaviors matched the regulatory styles of the followers, it produced positive outcomes in terms of prosocial work behaviors and work engagement. Thus, self-sacrificing leaders exhibited behaviors like spending personal resources (time, money) for the benefit of the group at the expense of personal interests, which fit with followers' prevention motives towards responsibility and duties (De Cremer et al., 2009). Similarly, transformational leaders who, for example, provide inspirational visions of the future and challenge followers to be creative, fit with followers' promotion motives of striving towards ideals and accomplishments (Moss, 2009).

Other studies have directly assessed regulatory fit between established leaders and followers, and found that fit is related to other positive outcomes. Specifically, fit between perceptions of leaders as transformational or transactional and followers' promotion and prevention focus (respectively) lead to followers having fewer turnover intentions (Hamstra, Van Yperen, Wisse, & Sassenberg, 2011). In support of part of Kark and van Dijk's (2007) model described above, another study found that leaders' situational regulatory focus influenced their leadership style, such that leaders primed with promotion focus were rated as exhibiting more transformational leadership behaviors and leaders primed with prevention focus were rated as exhibiting more transactional leadership behaviors (Hamstra, Sassenberg, Van Yperen, & Wisse, 2014). When the leaders' regulatory focus and leadership style matched the chronic regulatory focus of the other group members, members reported feeling more valued (accepted and important) by their leaders.

The results of this study seem to indicate that group members' regulatory focus influences their leadership preferences, at least at an individual level. However, each of these studies has only assessed the effects of regulatory focus on leaders who were already established or appointed, and none has assessed how goal pursuit strategies (like collective regulatory focus) can also become group norms that influence this process. Many companies are shifting toward more horizontal power structures, where teams are required to work together with little or no formal leadership (Beersma et al., 2013). In situations where a formal leader is not appointed, the context and group interactions should help foster shared group normative contexts.

As shown in Shin and colleagues' (2015) study, the organizational contexts are likely to affect the development of team CRF, and that shared context influences both team task and team creative performances. Shared contexts should impact individuals' behaviors in the groups, particularly for those who fit with the context and the group (van Knippenberg & Hogg, 2003), which influences who emerges as the leader of the group (DeRue et al., 2011; Kickul & Neuman, 2000). Organizations that wish to capitalize on the influence that informal leaders have in aligning groups, facilitating group goal pursuit (Pielstick, 2000), helping group develop feeling of efficacy (Pescosolido, 2001), and managing groups emotions (Pescosolido, 2002) may benefit from identifying which leaders emerge in different organizational contexts.

Most importantly, in groups where no leader is assigned, leaders must emerge from within the group. According to the social identity literature (Hogg & van Knippenberg, 2003; van Knippenberg et al., 2004), emergent leaders are ones who embody the normative context of the group. That is, leaders emerge when the "fit." In leaderless group designs, the process of granting and accepting leadership (DeRue & Ashford, 2010) requires that an individual be motivated to lead. Individuals who fit in terms of RF with their groups are more likely to identify

with their groups (Hamstra, Sassenberg, van Yperen, Wisse, & Rietzschel, 2015). Thus, group members who fit best with the normative context may be more likely to attempt leadership in those situations.

In the same way that established leaders' behaviors interact with followers' regulatory focus, the CRF of the team should influence who is seen as "group prototypical." Furthermore, appropriate fit can smooth social interactions, aligns goals strategies, and facilitates goal attainment (Higgins, 2000, 2005; Spiegel, Grant-Pillow, & Higgins, 2004). From the other group members' perspective, those individuals who are attempting to lead will likely be accepted or viewed as the leader because they embody the groups norms. Based on regulatory focus theory and the regulatory fit hypothesis, as well as social identity and categorization theories, I posit that informal leaders emerge in groups where the members' match the group's goals and strategic orientation (CRF).

Specifically, promotion-focused individuals care more about nurturance needs, are focused on the presence of rewards, and are oriented toward growth and aspirations (Higgins, 1997), and promotion-focused followers seem to prefer leaders who are dedicated to building relationships and empowering individual expression and creativity (e.g., Kark & van Dijk, 2007; Moss, 2009). In contexts where the CRF are promotion focused, individuals with chronic promotion regulatory focus may feel more "fit," have higher motivations to lead, and thus emerge as leaders within their groups. Prevention-focused individuals care more about security needs, are focused on punishments, and are oriented toward duties and responsibilities (Higgins, 1997), and prevention-focused followers seem to prefer leaders who provide structure and show particular dedication to completing the goals of the group (e.g., De Cremer et al., 2009; Kark & van Dijk, 2007). In contexts where the CRF are prevention focused, individuals with chronic

prevention regulatory focus may feel more "fit," have higher motivations to lead, and thus emerge as leaders within their groups.

Furthermore, only four previous studies have assessed the effects of CRF on group-level outcomes, showing that CRF facilitates goal pursuit and performance on interdependent group tasks; that is, on tasks where the all of the group members are required to cooperate and participate to reach the same goal (Beersma et al., 2013; Dimotakis et al., 2012; Memmert et al., 2015; Shin et al., 2015). This study will contribute to this growing body of literature by assessing the differential effects of CRF on how groups pursue goals (Shin et al., 2015). Specifically, groups should value tasks that fit with their CRF (Brockner & Higgins, 2001). Specifically, groups primed with a promotion CRF (i.e., *promotion groups*) should prioritize the parts of their task that require *creativity and originality* over the parts that require analytical reasoning and detail-orientation, while groups primed with a prevention CRF (i.e., *prevention groups*) should prioritize the parts requiring *analytical reasoning and detail-orientation* over the parts requiring creativity and originality.

Most of the CRF studies (cf., Shin et al., 2015) used group tasks where the objectives were clear, and performance feedback was readily available. In this study, the group task will require creativity and originality, as well as analytical reasoning and detail-orientation, and the relative success of the group may not be readily apparent to the group. That is, the task objectives are unambiguous, but the quality of their performance is subjective.

This study will add to the current literature by (1) assessing situational context as a prime of CRF, (2) determining whether CRF influences emergent leader processes, and (3) exploring whether CRF affects groups' goal pursuit strategy in the same ways as regulatory focus does individual outcomes.

Hypotheses

To test the hypotheses, groups came into a lab-based setting to individually complete a series of questionnaires on computers, and then together completed an interdependent group task. Groups were audio and video recorded. Finally, they rated their impressions of one another as leaders. I hypothesized that the effects of chronic regulatory focus on leader emergence will be mediated by motivation to lead, such that individuals with chronic RF that match ("fit") the CRF should have higher motivation to lead and be more perceived as leader, above and beyond other known predictors of leader emergence (the Big Five) and while controlling for sex and race.

H1a: In the promotion CRF, individuals with higher promotion focus will be perceived as more leaderlike, and this affect will be mediated by MTL.

H1b: In the prevention CRF, individuals with higher prevention focus will be perceived as more leaderlike, and this affect will be mediated by MTL.

At the group level, groups' collective regulatory focus should differentially predict the preference for the part of the task they thought was more important. I hypothesized that CRF will predict which aspect of the task (creative or analytical) that the groups prioritized.

H2a: Groups with induced promotion CRF will be more likely to choose to complete the creative aspect of the task first.

H2b: Groups with induced prevention CRF will be more likely to choose to complete the analytic aspect of the task first.

CHAPTER 2

PILOT STUDIES

The manipulations (differing company descriptions), manipulation check questions, and orientation questions were pilot tested and revised twice prior to use in the current study. In the following sections, the procedure used to develop the group task materials is described.

CRF Manipulation

The scenario was created by reframing and heavily editing the Marketing Task used in Schaumberg and Flynn (2012). In its original form, the Marketing Task asked participants to choose one of three products to market, and produce five potential names and taglines. Multiple changes were made to the scenario so that it could be used to (1) include two different types of tasks (one creative task based on the original task design and a new analytical task), and (2) prime differences in CRF. A detailed discussion of the changes and additions made to the original Marketing Task is described presently.

To create a scenario that would prime collective regulatory focus, I drew upon regulatory focus and fit theories (Crowe & Higgins, 1997; Higgins, 2002; Kark & van Dijk, 2007) to frame the description of the participants' fictional marketing company (Kama Corp.), the company's situational context, and the participants' team goal to be either promotion-focused or prevention-focused. According to regulatory focus theory, promotion-focused individuals are motivated by ideal goals and gains. Kark and van Dijk (2007) describe ways in which companies can embody promotion or prevention motives through their leaders values' (change vs.

conservation/tradition) and work context characteristics (dynamic vs. stable), among other contextual variables.

In the initial tests of the material, the focus was on highlighting the gain/nongains for promotion groups and the losses/nonlosses for prevention groups: For the promotion-focused framing, Kama Corp. was described as a *thriving* company respected for their *creativity*, and they are looking to *expand* the company by winning the marketing bid. Consequences of them winning the bid include getting a *large bonus* and *more lucrative accounts* (gains), and if the bid is lost, the company *will not expand* and the team will *miss the bonus* (nongains).

For the prevention-focused framing, Kama Corp. was described as a *declining* company respected for their *quality*, and they are looking to *save* the company by willing the marketing bid. Consequences of them winning the bid include the *company staying open* and the team *avoid a pay reduction* (nonloss), and if the bid is lost, the company will *downsize* and the team's *pay will be reduced* and be given *fewer lucrative accounts*.

Orientation Questionnaires and Manipulation Checks

One question (the original orientation item) was created to assess how much individuals bought in to the scenario described. Eight questions (manipulation check items) were created to assess how participants interpreted their goal and the strategy they believed would be best for reaching the goal. All items were measured on a 7-point scale ranging from 1 = *disagree strongly* to 7 = *agree strongly*. The manipulation check items asked a variety of questions, but were either framed as promotion-focused (utilizing words such as *take risk*, *innovativeness*, and *creativity*) or prevention-focused (utilizing works such as *avoid risk*, *quality*, and *detail-orientation*). Theoretically, if the manipulation worked, an individual primed for one type RF should endorse

the statement that "fits" with their situation RF more strongly than the item that does not fit (Higgins, 1997).

Pilot 1 Results

In the first pilot study, students from the research pool (N = 100, 61% female, 62% Caucasian) were randomly assigned to read one of the two the company descriptions and complete the six manipulation check items and one orientation item. The t-tests showed that only one of the manipulation check items ($t(98) = -2.36$, $p = .020$, $d = 0.48$) significantly differentiated individuals in each the conditions (ds = .08-.23), indicating that (1) the manipulation was not strong enough to impact participants' situational regulatory focus and/or (2) the questions themselves were inadequate. Heavy revisions were made to the company descriptions based on the advice of regulatory focus experts. Also, four new items were added to the manipulation check, and minor revisions were made to the content of the original eight items. These company descriptions and manipulation check items were pilot tested a second time.

Pilot 2 Results

In the second pilot study, participants (N = 237, 52% female, 78.1% Caucasian) were recruited from Amazon Mechanical Turk (Mturk). Participants were randomly assigned to read one of the two company descriptions, and then complete the manipulation check items. Participants in each condition significantly differed on their answer to three of the four new items (ds = 0.37-0.49), and two of the original eight items (ds = 0.36-0.37). Based on these results, the four newer items and four of the older items were retained for use in the current study (see Appendix A).

CHAPTER 3

METHOD

Participants

Participants were recruited from the UGA psychology research pool (N = 391). The sample was 71.4% female, and 98.2% of the sample was between the ages of 18-24. The majority of the sample identified themselves as Caucasian (69.1%), with 10.7% identifying as African American, 10.7% as Asian/Pacific Islander, 4.6% as Hispanic/Latin American, 1.3% Arabic, and 3.6% identified as Mixed Race/Other. Participants were tested in groups of either 4 or 5 (N_g = 86), and randomly assigned to either the collective promotion (n_g = 44) or collective prevention conditions (n_g = 42).

Procedure

Groups of 4 to 5 participants came into the lab, underwent the consent process, and completed a series of computer-based self-report questionnaires about their personality, motivation to lead, chronic (trait-level) regulatory focus, and demographic information. Each individual was introduced to the group task, where participants were asked to imagine they were part of a team in a marketing firm competing against other marketing firms to win the chance to market products of a large product development company. The wording on the instructions to the task instructions was designed to prime collective regulatory focus (Marketing Task Introduction – Regulatory Focus Primes; see Appendix B). Groups were randomly assigned to be either collective promotion focus groups or collective prevention focus groups.

After completing the questionnaires on the computer, the participants were gathered together and the experimenter provided coded nametags for each participant (e.g., person A, person B, person C… to assist with later ratings) and introduced the group task. They received a description of the product development company, the product they will pitch for the bid, and general instructions for each part of the task (Client and Product Descriptions and Task Instructions; see Appendix C). Participants were asked to complete the orientation questionnaire (see Appendix D). This questionnaire included questions assessing participant buy-in and commitment to group task, as well as the manipulation check items. They completed this form once individually on the computers prior to the group task, and then again as a group.

The task had two parts: The "Product Pitch" required the teams to come up with a name and tagline, and create a rough sketch of a commercial for the product they were provided. They also evaluated their performance on the Product Pitch against their team's goal (see Appendix E). The "Advertising Strategy" required the teams to assess information about potential media outlets in order to provide the best advertising recommendations for the fictitious client (i.e., choose the media option(s) that maximize expected revenue and profit). They then summarized their overall Advertising Strategy and evaluated their answers (see Appendix F). Teams chose part of the task to prioritize (i.e., work on first); they were not allowed to switch between or work on the two parts concurrently.

After completing both parts of the marketing task, participants evaluated their overall performance as a team (i.e., Post-Task Questionnaire; see Appendix G). They then returned to their computers to complete a post-task questionnaire individually, and to rate one another on leadership perceptions (which was aggregated and used as the score for *leader emergence*). Participants were debriefed before they left the lab.

Measures

Collective Regulatory Focus Prime. Groups were randomly assigned to either receive either the collective promotion prime or the collective prevention prime. Priming was done by modifying and augmenting the marketing task used in Schaumberg and Flynn's (2012) study (see Appendices A, C, D, and E). Specifically, they were provided information about their fictitious company, and given a specific goal. For the promotion-focused framing, participants were told that their company (Kama Corp.) was known for their *creative* and *innovative* approaches to marketing, that they value *creative thought* and *change*. They seek to *exceed the standards*, and the goal is to *win the client*. For the prevention-focused framing, participants were told that their company was known for their *high quality* and *reliable* approaches to marketing, that they value *efficiency* and *tradition*. They seek to *set the standards*, and the goal is to *keep the client*.

Data from Video Recordings. The group interactions were video recorded, and then coded. The video was to provide two key variables: the aspect of the task they prioritized (creative vs. analytic) and the number of task and relational leader behaviors exhibited during the prioritized task. Due to time constraints in processing the video data and completing the reliability checking on the behavioral coding of leader behaviors, however, only the *task prioritization* variable was included in the analyses.

Leadership Emergence. The 5-item General Leadership Impression (GLI; Cronshaw & Lord, 1987) was used to assess leader emergence in each group. The questionnaire asked each group members to rate their perceptions of one another's leadership during the group task. In the scale, the term "leader" is not defined, so that the participants' ratings would be based on their own personal idea or prototype of a leader (α = .96). The word "ratee" was changed to refer to each group member (using the participants' assigned letter).

Motivation to lead. Motivation to lead (MTL) was measured using the 27-item questionnaire (Chan & Drasgow, 2001). This questionnaire has three subscales that reflect different motives individuals can have when pursuing leadership experiences or positions. The scale consists of affective, noncalculative, and social-normative subscales. In this study, we'll be using the general factor model ($\alpha = 0.89$).

Big Five Personality. The Big Five personality traits are related to both leader emergence (Ensari et al., 2011; Judge et al., 2002), and motivation to lead (Chan & Drasgow, 2001). Furthermore, extraversion, conscientiousness, and neuroticism have been linked to both general and work-specific measures of chronic regulatory focus (Gorman et al., 2012; Lanaj et al., 2012). Therefore, they are included as a distal predictors of leader emergence through motivation to lead, and are measured using the Ten Item Personality Inventory (Gosling, Rentfrow, & Swann, 2003).

Chronic Regulatory Focus. Chronic regulatory focus was measured using the 18-item General Regulatory Focus Scale (Lockwood, Jordan, & Kunda, 2002). It contains two subscales that measure chronic promotion regulatory focus ($\alpha = 0.86$) and chronic prevention regulatory focus ($\alpha = 0.83$). Participants respond to a series of statements by indicating whether the statement is *Not at all true of me* (= 1) or *Very true of me* (= 9).

Control Variables. At the individual level, demographic characteristics of race (Rosette, Leonardelli, & Phillips, 2008) and sex (Ayman & Korabik, 2010; Powell, 2012) were controlled for because of their past association of leader emergence. The interdependence of the data due to participants being tested in groups was also controlled for in all of the multilevel analyses.

Additional Variables. Individuals also reported on their perception of themselves as leaders during the task via a self-referent version of the GLI (GLI-Self), their year at UGA, and

their status as a student (full vs. part-time). These variables were not included in any analyses presented here.

CHAPTER 4

RESULTS

Manipulation Checks

Orientation Questions. The orientation questions were designed to align the individuals toward their collective goal and serve as a manipulation check to test whether the groups were collectively endorsing the regulatory focus introduced by the company description. All participants first completed the questions individually, giving how they think the group should act. Then (after the individual were gathered into their groups) they completed the same questions again, but were instructed to come to a consensus on each item. All manipulation checks were assessed using SPSS v24, and summarized in Table 1.

To measure the extent to which participants bought-in to the scenario, we added two questions to the orientation questionnaire to encourage individuals and groups to think about the consequences of the task as if the scenario were real. For both questions, groups and individuals show similar patterns of results. We assessed participants' and groups' *buy-in* with the question "The company needs my team to meet the goal." Responses were reported on a 7-point scale, from *disagree strongly* to *agree strongly*. Descriptive statistics showed that the majority of the groups (95.3%) reported strongly agreeing that their company needed to meet their goal, with the remaining reported that they moderately agreed (4.7%). At the individual level, 47.8% strongly agreed that their team needed to meet the goal, 34.8% agreed moderately, 12.8% agreed a little, 3.1% were neutral, and only 6 people (1.6%) disagreed in any capacity.

We also assessed how committed to the goal they were by asking participants and groups to what extent their team should *avoid failing the presentation* (= 1), *disregard the results of the presentation* (= 4), or try to *achieve a successful presentation* (= 7). Results for the *commitment* question showed similar patterns to the buy-in question, with 91.9% of the groups strongly endorsed the need to achieve a successful presentation (vs. avoid failing). All other responses (7 people) were also in the positive range (reporting either a 5 or 6). Similarly, 67.8% of individuals strongly endorsed the need to achieve a successful presentation (vs. avoid failing), 28.2% endorsed achieving success moderately or weakly, 1.5% were neutral, and 1.6% endorsed the "avoid failing" option in any capacity (i.e., a response of 1 through 3).

Post-Task Questions. The post-task questions were designed to assess how groups collectively viewed each of the tasks (the analytic Advertising Strategy and creative Product Pitch), and to measure how confident they were that their performance on the tasks would help them reach their goals of either willing (promotion) or keeping (prevention) their clients. Groups overwhelmingly agreed that the analytic task was *more challenging* than the creative task (77 groups; 89.5%); only three groups thought the creative task was more challenging, five groups thought both were equally challenging, and one group thought neither was challenging. Similarly, the majority of groups reported that they would have *liked more time* on the analytic task (64%), 15 groups would have liked more time on both, 10 groups reported they didn't need more time on either part, and only 6 groups reported wanting more time on the creative task only.

Despite wanting more time on the more difficult analytic task, most groups (77.9%) reported that the creative task was *more important*. Groups were also more significantly more confident (M = 4.23, SD = 0.73) that their performance from the creative task (their pitch) would

help them reach their company's goal than their performance on the analytic task (M = 3.01, SD = 1.06), $t(85) = 9.50$, $p < .001$.

Missing Data[4]

Missing Data Analysis Results. Using the Missing Value Analysis procedure in SPSS 19, I assessed the level of missingness for each item of the TIPI, GRFS, MTL, and the aggregated GLI-Other scores (see later note regarding this variable). The analysis showed that 12.28% of the participants had some amount of missing data, and there was 30% missingness in the 60 items (including the aggregated GLI-Other). Overall, though, there was only 0.41% of missingness in the main variables total.

The Little's MCAR test was statistically significant ($\chi^2(1547) = 1820.06$, $p < .001$) indicating that the missing data were not missing completely at random (MCAR). To determine whether the missing data were missing at random (MAR) or missing not at random (MNAR), *t*-tests were performed to assess if the missingness was due to sex or race. The GRFS had the largest amount of missing data issues: 15 out of 18 items contained at least one missing value; in total, 23.79% were missing. Missingness was particularly prevalent for questions in the prevention scale that referenced feelings of worry about academics or fear about the future. One prevention question, the GRFS_04, had the largest amount of missingness for any one item (5.12%). The *t*-tests showed that there were no significant differences in sex or race on missingness responses in either the GRFS as a whole or specifically in the GRFS_04 question. Given the small amount of missing data in both the MTL and the GLI-Other (0.51% each), it seemed unnecessary and probably ineffective to run *t*-tests, and unlikely that these data were MNAR.

Note about the Leader Perception (Averages GLI-Other). The GLI-Other required different handling than the other scales due to a variety of data collection issues that occurred. The GLI-Other was measured via questionnaires presented an online platform (Qualtrics). Each participant reported their assigned "letter" (e.g., letter A), which then presented them with a GLI questionnaires—one for the self, and one for each other member in the group (e.g., B, C, D, and E). However, the GLI that used their letter as reference (GLI-A) was not presented to them. Additionally, since some groups only had four members, before each presentation of their other group member's questionnaires, participants answered the question "Was there a Person ___ in your group?" If they answered "no" then the questionnaire referring to that individual was skipped in the survey program.

Though this was done to help decrease confusion in who they were targeting in each assessment, it caused unintended data issues to occur in a few groups. In addition to item-level missingness that occurred randomly in the sample, there were also instances of scale-level missingness where participants accidently skipped rating one of their group members.

In another unintended consequence, five individuals in five different groups misreported their letters. Because of the presentation methodology described above, this meant that they have scale-level missingness for the individuals whose letter they appropriated. In addition, 4 of the 5 people completed the scale that referenced their real letter. Since it was impossible to tell if they were rating themselves (in addition to the self-referential scale), or if they were rating the person's whose letter they appropriated. Given the ambiguity of the situation, the responses provided for the scale that referenced their real letter were removed from the analyses.

Unlike the individual-level data, where the calculation of the total scores or averages is completely independent from the other group member, the leader emergence variable is

calculated via ratings within each group and averages are calculated for each group member from the ratings of all of the other members. That is, those data are interdependent. Because of the combination of the data structure which includes "planned missingness" that arises from members completing the GLI-Self in place of the GLI-Other that referenced their letter, having different group sizes, the multilevel nature of the data, multiple imputation on the raw GLI-Other scores was not possible for imputing the missing data even for the item-level missingness. Thus, the leadership ratings were averaged using as much of the data as we could be confident of before the multiple imputation procedure, so some individuals' scores are based on incomplete data.

Conclusion. Given that less than 1% of the data were missing across all items and the GLI-Other and the results of the *t*-tests for assessing group differences in the GRFS were nonsignificant, it seems likely that the missing data is MAR. Thus, missing values for each of the items and the aggregated GLI-Other were imputed using the multiple imputation methods in SPSS v19. All analyses (except for manipulation checks) were run in MPlus v6 (Muthén & Muthén, 2011) using the 10 imputed datasets. Because of this, fit indices are calculated averages and the standard deviations around each fit estimate are reported, but confidence intervals around RMSEA for all analyses could not be calculated.

Primary Analyses – Individual-Level Effects

The hypotheses included expected individual-level effects (H1: individual-level traits and motives that influence the leadership ratings, also known as level 1 or within effects) and group-level effects (H2: in CRF on group outcomes, also known as level 2 or between effects). Correlations among all variables are reported in Table 2 (where imputation was needed, the correlation reported in the mean of correlations across the 10 imputed datasets). Since

participants were nested within teams, I used multilevel modeling (MLM) using maximum likelihood estimation in MPlus v6 to test my hypotheses. Based on the recommendations in Hayes (2006), the first model tested should be an empty or null model showing that there is enough variance in the group-level outcome variables to justify the use of MLM. The baseline model testing differences in the random intercepts of the groups was run first and the results showed that there are nonsignificant amounts of variance at the group level. This indicates that the grouping effects on leader perceptions was very small, ICC(1) = 0.002 (Bryk & Raudenbush, 1992). However, even small amounts of interdependencies in the data can results in bias (Bliese, 2000). Thus, MLM controlling for grouping effects was still used in all analyses.

All hypotheses were tested while controlling for the interdependence among groups and individual demographic characteristics (i.e., sex and race). For a complete model summary describing the general hypotheses, see Figure 1. In these primary analyses, I hypothesized that people with chronic RF that matches the CRF condition will have higher motivation to lead, and thus will be rated more highly as leaders. If CRF is a significant contextual variable, then we should see leaders emerge due to differential patterns of effects from chronic RF when modeling the CRF groups separately.

To test CRF as a contextual variable, the full predicted model shown in Figure 1 was run with CRF as a contextual "grouping" variable ("split" model), which models the factor structures of each "group" separately, while providing overall model fit indices. Thus, "the fit indices test the null hypothesis that the a priori factor structure is the same in both groups. Good fit supports the null and bad fit means the factor structure is not the same" (R. Vandenberg, personal communication, September 24, 2014). For the split model, the chi-square test was significant, and the model fit was did not reach accepted thresholds, $\chi^2(18) = 44.99$, $p < 0.001$, RMSEA =

0.088, SRMR = 0.034, CFI = 0.875, TLI = 0.736. The chi-square test showed that the observed covariance matrix did not match the predicted covariance matrix—indicating a "badness of fit" between the data and the model. The absolute (RMSEA, SRMR) and relative (CFI, TLI) fit indices also indicated that model fit was mediocre (RMSEA and TLI) to fair (SRMR and CFI; Hu & Bentler, 1998; Lance & Vandenberg, 2002). It is known that larger sample sizes (N > 200-300) tend to produce significant chi-square tests even when differences are slight (Kline, 2011), but given the sample size is close to that range (N = 391), this seems to indicate that the structural models for each group may be significantly different.

The results of the multigroup multilevel model indeed show significant differences in the patterns of significant paths, both direct and indirect. Results of the analysis are in Table 3, where estimates of the path coefficients in each group's model are presented side-by-side. The results show differing patterns in the promotion and prevention CRF conditions, generally supporting the claim that CRF is a collective state that significantly impacts the entire leader emergence process. Indirect effect tests were run for all distal predictor to leader emergence through MTL with a series of Sobel tests, and are reported in Table 4.

Examination of the direct effects found in both conditions showed that MTL was a significant predictor of leader emergence. Race was also a significant predictor of leader emergence, such that people who identified as Caucasian were significantly more likely to be viewed as leaders than individuals who identified as African American, Asian, Arabic, Mixed, or Other (collectively coded as "non-Caucasian"). Both extraversion and conscientiousness were significant direct predictors of motivation to lead, and had significant indirect effects on leader emergence in both conditions as well.

In *H1a* and *H1b*, I specifically hypothesized that people with chronic RF that matches the CRF condition should be more motivated to lead, and thus rated more highly as leaders. Consistent with H1a, chronic promotion focus was a significant predictor of motivation to lead, and had significant indirect effects on leader emergence n the promotion condition. Furthermore, chronic prevention focus did not have a significant direct effect on MTL or indirect effects on leader emergence in the promotion CRF condition either. Inconsistent with H1b, however, chronic prevention focus was not a significant in the prevention CRF condition. However, other differences were found between the groups. Specifically, in the prevention CRF condition, agreeableness predicted MTL and had a significant indirect effect on leader emergence through MTL. The results showed that people in the prevention CRF condition who were low in agreeableness were more likely to be motivated to lead, and this (in turn) led to them to emerge as a leader within their groups. This indicates that people with lower agreeableness had higher motivations to lead than people with high agreeableness, and that this led to low agreeable people being rated higher on leadership. No such pattern was found in the promotion CRF group, where agreeableness was nonsignificant for direct and indirect effects.

To assess where the structures significantly differed between groups, a series of Wald tests were used to test for differences between the path estimates and indirect effects for each CRF condition. These results are also reported in Tables 3 and 4. Despite the significant effects of chronic promotion focus found in the promotion CRF group, the Wald test indicates that the path estimate for chronic promotion focus did not significantly differ between groups. (Unsurprisingly, the nonsignificant paths from chromic prevention focus to MTL were also equal in both CRF conditions.) Examination of the Wald results indicates that there were no significant differences in path coefficients and indirect effects between the two groups.

Primary Analyses – Group Level Effects

Past research has shown that fit can also occur between the situational context and goal pursuit (e.g., Crowe & Higgins, 1997; Freitas et al., 2002). Because of this, I hypothesized that CRF would predict which part of the task that the groups "prioritized"—i.e., chose to start on first. Specifically, because of the fit with the business description and the goal they were provided, I thought that promotion groups would be more likely to prioritize the creative aspect of the task (*H2a*), while the prevention group would be more likely to prioritize the analytic aspect of the task (*H2b*). A Pearson chi-square test was conducted in SPSS v19 to test these hypotheses, and indicated that there was a significant difference between the groups in which task they prioritized, $\chi 2(1) = 5.68$, $p = .017$. Examination of the cross-tabs analysis showed that promotion CRF groups were choose the creative task over the analytic task 61% of the time, but prevention CRF groups were not more likely to choose either task (52.4% chose the analytic task). Thus, H2 was partially supported.

Exploratory Analyses

With multigroup analyses, the primary purpose is to assess differences in paths among groups, and the indicator of group differences are poor fit indices. However, poor fit of the original model and the multitude of nonsignificant Wald tests indicating that specific paths in the model did not significantly differ from one another CRF conditions leave open the possibility that the model was simply mispecified for both groups. When comparing the promotion and promotion CRF groups' path model results, there was some evidence of differential indirect patterns of effects for RF and some of the FFM traits. This suggests that models incorporating direct effects or explicit modeling of indirect effects for certain RF motives and traits to leader emergence may help improve fit. I decided to use a theoretically-based approach to the

assessment and respecification of the model (Kline, 2011) by systematically eliminating sets of variables in the model based on the strength of the support the relationships had in the past literature. The model fit results for these additional models are reported in Table 5.

First, I removed RF, but retained the FFM traits. Past research, as described in Chapter 1, seems to suggest that chronic RF may predict MTL and impact leader emergence under certain conditions (Kark & van Dijk, 2007). But the lack of existing strong empirical support made this a likely place for misspecification to occur. As seen in Table 5, however, the chi-squared test was still significant, the absolute and relative model fit worsened slightly from the split model, and the AIC and BIC increased a little. Thus, model fit was not improved with the removal of RF from the model, and I can conclude that RF is unlikely to be misspecified.

Second, I tested a model where I removed the Big Five personality traits as distal predictors (leaving only RF). Past research has clearly indicated that the Big Five are significant predictors of MTL (Chan & Drasgow, 2001), and distal predictors of leader emergence (e.g., DeRue et al., 2011). In this model, all of the FFM traits were included as distal predictors fully mediated by MTL. However, we also know from past research that personality sometimes has direct effects on leader emergence or are only partially mediated by more proximal behaviors or motives (e.g., Selden & Goodie, 2018). By removing the Big Five traits and then adding them individually back into the model, I sought to identify if any of the traits may have been misspecified. Full mediation models for each of the Big Five traits were run, while removing the other traits from the model. Additional models for full and partial mediation were only tested if model fit worsened as compared to the original "split" model. The results of these models are also reported in Table 5, and show that both extraversion (E) and emotional stability (ES) were misspecified in the original model as having fully mediated indirect effects. Specifically, follow-

up analyses show that the effect of extraversion on leader emergence is only partially mediated by MTL, while emotional stability was incorrectly specified as a having an indirect effect on leader emergence through MTL when model fit is greatly improved when its effect was modeled as direct.

Thus, the analysis of the misspecification showed that the effects of two of the traits were modelled incorrectly. As an exploratory test of whether this respecification change the factor structure comparison, the original split model was modified by adding a direct path between extraversion and leader emergence, and removing the path from emotional stability to MTL and replacing it with a direct effect to leader emergence (see Figure 2). Model fit indices for this modified model clearly indicated excellent fit across indices, $\chi^2(17) = 17.28$, $p = .436$, RMSEA = 0.008, SRMR = 0.020, CFI = .998, TLI = 0.997. The chi-square test of model misfit was nonsignificant, indicating that the data's covariance matrix is consistent with the predicted covariance matrix (i.e., "good" fit). Furthermore, the approximate fit indices all improved greatly and were well within acceptable standards as defined by Hu and Bentler (1998). This also seems to support the claim that the factor structures of the model in each conditions did not in fact differ significantly when the model is correctly specified.

To explore any differences between the original split model and the "new" modified model, the multilevel path model test results are reported in Table 6 and the indirect effects are reported in Table 7. (For this model, the Wald *W* tests were only run to test the differences in chronic RF paths, to confirm the results of H1 were the same.) The effects of chronic promotion and prevention focus are similar to the results found in the original model. The path model results and Sobel test supports the hypothesis that promotion focus predicts leadership through MTL (H1a), However, the Wald *W* test again showed that the effects of chronic promotion RF

on MTL in the promotion CRF condition were not significantly different than the chronic promotion RF coefficient estimated in the prevention CRF condition, $W(1) = 0.48$, $p = .488$. Chronic prevention focus was not significant at all in the prevention CRF condition. Therefore, H1b was also not supported in this modified model.

Two interesting differences did emerge in the paths that were modified. (All other results will not be discussed in detail.) Extraversion was a significant predictor in both models, but its impact manifested in different ways in each condition. In the promotion CRF condition, extraversion had significant direct effects on MTL and leader emergence, and also significant indirect effects on leader emergence through MTL. This pattern matches the partial mediation found during the respecification process. However, in the prevention CRF condition, extraversion only showed significant indirect effects through MTL. The direct effects were nonsignificant. Emotional stability was a significant direct predictor of leader emergence in the prevention CRF condition, but not the promotion CRF condition; as emotional stability increased, individual's ratings as a leader decreased.

CHAPTER 5

DISCUSSION

Leaders help define the goals of their teams based on the needs of the organization, and attempt to motivate others to work towards those goals (Berson et al., 2015; Kaiser et al., 2008; Wood & Bandura, 1989). Leaders RF influence the style of leadership they exhibit (Hamstra et al., 2014), and their situational RF is likely impacted by the context and the organization (Kark & van Dijk, 2007). When leaders RF fit the motivational styles of their employees or followers, many positive work outcomes occur, including greater organizational commitment, work engagement, and job satisfaction, as well less turnover intentions (Hamstra et al., 2011; Kark & van Dijk, 2007; Moss, 2009; Neubert et al., 2008, 2013; Whitford & Moss, 2009). Past research has established leaders' regulatory focus and fit can impact employee and team level outcomes, but little is known about the role RF plays (1) in the informal leader emergence process and (2) in teams. As more and more companies utilize autonomous work teams (Beersma et al., 2013; Morgeson et al., 2010), understanding how and why leaders emerge in specific situations or contexts is key to understanding how informal leaders become influential in groups (e.g., Pescosolido, 2001, 2002; Pielstick, 2000).

Informal leader emergence occurs through a process of claiming on the part of someone attempting to lead, and granting on the part of the other individuals in the group or team (DeRue & Ashford, 2010). Individuals who identify strongly with their groups tend to adopt the group identity and characteristics (Tajfel & Turner, 1979; Turner et al., 1987). As within-group similarities become more salient, the group identity supersedes individual identities, and

individuals' behaviors start to reflect the norms of the group (Hogg, 2005). The most influential members tend to be the most prototypical in the group (Ellemers et al., 2004; Hogg, 2001). These individuals tend to be perceived as more invested in the group, are more supported by their group members, and more trusted (Hogg et al., 2012; van Knippenberg & Hogg, 2003). Thus, people who "fit" with the group are much more likely to emerge as leaders within though groups (van Knippenberg et al., 2000).

In this study, I attempt to assess how groups collective regulatory focus (CRF) strategies can become normative contexts through which informal leaders can emerge. I posited that individuals with particular chronic regulatory focus (RF) strategies would fit best within the groups that matched their RF, and fit would activate people's motivations to lead (MTLs) and impact their overall evaluations as a leader. The purposes of the study were to (1) develop a method for priming CRF in groups, (2) assess how the CRF impacts the leader emergence process, and (3) determine whether CRF impacts groups' collective goal pursuit strategies.

In this study, we found evidence that indicates the priming of CRF can be accomplished through the manipulation of the group's goals and the context provided. Two pilot studies using individuals were used to develop the CRF priming method. The scenarios were based on descriptions of how promotion and prevention organizations differ in their motives and missions (Johnson et al., 2015; Kark & van Dijk, 2007), and goal were framed to induce a promotion and prevention mindset (Higgins, 1997; Higgins et al., 2001). The final versions were used in the current study, and responses to the manipulation check items indicated that groups (but not individuals) differed in their evaluation and approach to their mission in ways that were consistent with different RF motivations. This type of methodology is different from past CRF research, which tended to utilize computer mediated tasks that had clearly defined goals (e.g.,

Beersma et al., 2013; Dimotakis et al., 2012; Shin et al., 2015). In this study, the task itself had clearly defined steps, structure, and goals but little feedback for groups to objectively know how well they did. Though probably not accurate to what a marketing firm would do, I would argue that these characteristics are much representative of task characteristics found in the workplace in "real world" tasks.

Fit between the CRF context and individuals' chronic RF only seemed to occur in the promotion CRF condition: Promotion-focus was directly related to increased MTL, and indirectly related to higher ratings of leadership, while chronic prevention focus was unrelated. In the prevention CRF condition, neither chronic prevention focus nor promotion focus significantly predicted motivation to lead or leader emergence. Thus, the results showed partial support for the effects of fit in the promotion CRF groups, but further analysis revealed that the differences in these effects between two conditions were not significantly different. Similarly, fit seemed to impact which aspect of the task that groups chose to prioritize—but again, only in the promotion condition. Thus, these results indicate that fit between the CRF of the group and individual's chronic RF only minimally impacts the leader emergence process and the groups' goal pursuit strategy.

It was unsurprising to see some key variables impacted leader emergence regardless of the group context. MTL, race, extraversion, and conscientiousness are all known predictors of leader emergence. The general factor of MTL also significantly predicted leader emergence, and was shown to be a mediator through which traits and motives like extraversion, low agreeableness, conscientiousness, and chronic promotion focus impacted leader emergence (Chan & Drasgow, 2001; Chan, Rounds, & Drasgow, 2000; Luria & Berson, 2013). The results

showing racial differences are consistent with past research on implicit leadership theories and stereotyping (Rosette et al., 2008).

Personality traits have long been studied in relation to leader emergence (DeRue et al., 2011; Judge et al., 2002; Lord, de Vader, & Alliger, 1986; Turetgen, Unsal, & Erdem, 2008). Past research has shown personality is also RF, and these results are generally consistent with past findings (e.g., Lanaj et al., 2012). Both extraversion and conscientiousness in particular were relevant in both conditions, given that the group interactions involved collaborating with others, expressing opinions, and working toward a collective goal within a specific time limit. These results are consistent with past literature that shows conscientiousness is significantly related to both promotion and prevention focus, and has significant direct and indirect (through RF) effects on work outcomes (Lanaj et al., 2012; Wallace & Chen, 2006). Extraversion also tends to be more related to promotion focus, and probably produces a similar feeling of "fit" within promotion-focused groups. Overall, the results were not consistent with the hypothesis, because the emergent processes in each group did not differ some in terms of which personality traits predicted leader emergence in each condition.

There are a few possible explanations for not seeing fit occur in the prevention CRF groups. First, the group task was designed had two parts: creative and analytic. These tasks were designed to test whether groups with particular CRF were more inclined toward tasks that fit with their CRF—as is seen in studies testing individuals' chronic or situational RF (Higgins, Chen Idson, Freitas, Spiegel, & Molden, 2003; Memmert et al., 2015). It is possible exposure to the task with a goal that conflicted with their CRF could have attenuated the effects of CRF. The majority of groups (60.5%) chose to work on the creative "Product Pitch" aspect of the task over the more analytical "Advertising Strategy." While 32 (72.7%) of promotion CRF groups chose to

complete the creative task, the prevention CRF groups showed no such preference (only 52.4% chose to do the analytic task first). Given that promotion focus was likely more beneficial during the creative, it is possible that groups adjusted to better match the task.

It is also possible that participants inferred from the scenario provided in the prevention CRF condition ("keep the client,") that their company was inadequate in some way. If participants interpreted the scenario in this way, they may have felt they needed to do something different from the instructions, even though they instructions said to ensure their bid reflected their company's values and strengths. I recall one group, for example, where group members supported their opinion to focus on creativity with arguments to this affect. Similarly, the participants could have perceived the prevention scenario as very negative, and that may have prompted some groups to adjust their approach to completing their goal in a more positive way—essentially reframing the task to be more neutral or promotion focused. Combined with the attenuation effect posited above, this could have overwritten the original priming with the scenario.

Limitations

Missing data was an issue in some measures. Though analyses showed that the missing data were likely missing at random, one of the measures (GLI-Other) produced particular problems that could not be adequately dealt with standard multiple imputation procedures. This likely produced errors in the measurement of the leader emergence because many individual's score were calculated averages from incomplete data. Because scores were aggregated before imputation, item-level missingness became scale-level missingness. Imputation conducted at the scale level for this variable may have biased results of the imputation. (Luckily, only two

average scores required imputation at the aggregated level; however, the potential problems from scale missingness are still problematic.)

The results from the respecified, exploratory model should be viewed with caution. Respecifications of models without proper validation from a new sample could allow sample specific variation to dictate impact model fit. The results found here need to be replicated by future studies before strong conclusions or applications of the model are made. Kline (2011) recommended this method of model respecification, as long as theory is driving the changes. Given that the respecifications made are strongly supported by decades of theory, only minor changes were made (addition of one path, alteration of one path), and fit improved substantially from the original "split" model, this model may be a fruitful alternative for future research to expand on.

Conclusions and Future Directions

The results showed support for how traits and motives may differentially impact leader emergence depending on the collective context. However, the results here only weakly supported the hypotheses, with promotion RF acting as a significant distal predictor of leader emergence in the promotion condition, and promotion CRF impacting preferences for certain types of tasks. Prevention groups and prevention RF did show the same effects. Impacts of distal and semidistal predictors (like the ones tested here) on leadership are theoretically likely to be mediated by more easily observable behaviors. Objective measures of leadership, like behavioral observations, are also likely to be impacted by RF and may have differential effect on how is perceived as—or preferred as—a leader. Groups with different collective regulatory foci may require different leadership styles to produce "fit" with their emerging leader(s). For example, individuals who exhibit more relationship-oriented or transformational leader behaviors may be

preferred in groups that have a promotion-focused context (Kark & van Dijk, 2007; Moss, 2009). Individuals who exhibit more task-oriented or transactional leader behaviors may be preferred in groups that have a prevention-focused context (De Cremer et al., 2009; Kark & van Dijk, 2007). Future research should assess these behaviors in naturally occurring work groups, or in groups that interact for longer than 1.5 hours.

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FOOTNOTES

[1]We ran some 3-person groups for training purposes. These videos were then used in the development and validation of the leader behavior guide and during training of coders.

[2]Due to time constraints, only the task they prioritized was coded.

[3]Because we limited our behavioral coding analyses to the prioritized task, and groups were able to choose which task they complete, they type of task was controlled for in all analyses.

[4]The approach to the analysis and handling of missing data was largely based on material provided by Bob Vandenberg as part of his 2015 Structural Equation Modeling class. Additional resources are used and cited as needed, however.

Table 1: Manipulation Check Results

	Promotion CRF			Prevention CRF				
Manipulation Check Questions	*M*	*SD*	*N*	*M*	*SD*	*N*	*t*-test[a]	*d*
Individual RF Priming								
Highlight quality	6.06	0.90	195	5.97	0.94	196	0.88	0.10
Highlight innovativeness	6.06	0.95	195	5.85	0.94	196	**2.20***	**0.22**
Take a risk	3.94	1.54	195	3.75	1.49	196	1.23	0.13
Avoid risk	3.55	1.55	194	3.71	1.41	196	-1.09	0.11
Innovation vs. Quality	3.84	2.22	166	4.30	2.17	187	**-1.98***	**0.21**
Take risk vs. Avoid risk	4.94	1.42	190	4.64	1.45	194	**2.03***	**0.21**
Creativity vs. Planning needed	3.27	2.25	160	3.42	2.19	171	-0.60	0.07
Group RF (CRF) Priming								
Highlight quality	5.89	1.08	44	6.26	1.15	42	-1.56	0.33
Highlight innovativeness[b]	6.75	0.69	44	5.86	1.42	42	**3.68****	**0.80**
Take a risk	4.95	1.48	44	3.90	1.61	42	**3.16*****	**0.68**
Avoid risk	2.98	1.32	44	4.07	1.37	42	**-3.77***	**0.81**
Innovation vs. Quality	2.45	1.87	44	4.86	2.18	42	**-5.49*****	**1.19**
Take risk vs. Avoid risk	5.56	1.35	43	4.31	1.44	42	**4.13*****	**0.90**
Creativity vs. Planning needed[b]	2.30	1.42	43	3.98	1.85	42	**-4.66*****	**1.02**

[a]Conditions were dummy coded: 0 = *promotion CRF* and 1 = *prevention CRF*.

[b]The Levene's Test was significant, indicating that there were unequal variances between the groups; results reported use adjusted *df* to account for the violation of the homogeneity of variance assumption.

*$p < .05$, **$p < .01$, **$p < .001$.

Table 2: Correlations Among All Variables

	CRF	Sex	Race	Lead	E	A	C	O	ES	MTL	Pro	Pre
CRF	-											
Sex	0.06	-										
Race	-0.06	-0.05	-									
Lead	-0.04	0.11*	-0.25***	(.96)								
E	-0.03	0.10*	-0.10*	0.30***	-							
A	-0.04	0.17**	-0.03	0.02	0.08	-						
C	0.09	0.08	-0.08	-0.00	-0.08	0.13*	-					
O	-0.07	0.01	0.06	-0.02	0.21***	0.15**	-0.16**	-				
ES	0.02	-0.15**	-0.02	-0.05	0.04	0.20***	0.24***	0.01**	-			
MTL	0.04	0.11*	-0.11	0.33***	0.40***	-0.01	0.27***	0.19***	0.14**	(.89)		
Pro	-0.01	0.11*	0.08	0.00	0.11*	0.11*	0.36***	0.19***	0.12*	0.28***	(.86)	
Pre	0.07	0.10*	0.16**	-0.07	-0.12*	-0.01	-0.08	0.02	-0.26***	-0.07	0.19***	(.83)

Note: For variables with missing data, correlations reported are pooled over the 10 imputed files. CRF: Collective regulatory focus condition (0 = prevention, 1 = promotion), Sex: 0 = male, 1 = female, Race: 0 = Caucasian, 1 = non-Caucasian (African American, Asian, Arabic, Mixed, or Other), Lead = average leadership score from all group members on the GLI-Other scale, E = extraversion, A = agreeableness, C = conscientiousness, O = Openness to experience, ES = Emotional stability, MTL = Motivation to lead, Pro = chronic promotion regulatory focus score, Pre = chronic prevention regulatory focus score. Reliability scores are reported on the diagonals in parentheses.

*$p < .05$, **$p < .01$, **$p < .001$.

Table 3: Multilevel Path Analysis Predicting Others' Overall Perceptions of Leadership by Collective Regulatory Focus Condition

	Promotion CRF			Prevention CRF			Wald Test		
Predictors	*b*	*t*	*p*	*b*	*t*	*p*	*W*	*t*	*p*
Direct Effects to Motivation to Lead									
Intercept	2.662	6.394	< .001	3.134	9.737	< .001			
Chronic Promotion Focus	**0.110**	**2.801**	**.005**	0.074	1.644	0.100	0.037	0.616	.765
Chronic Prevention Focus	-0.043	-1.119	.263	0.022	0.747	0.455	-0.065	-1.343	.179
Extraversion	**0.166**	**5.736**	**< .001**	**0.160**	**6.281**	**< .001**	0.006	0.146	.884
Agreeableness	-0.034	-0.845	.398	**-0.074**	**-2.155**	**0.031**	0.040	0.755	.450
Conscientiousness	**0.123**	**4.786**	**< .001**	**0.111**	**2.890**	**0.004**	0.012	0.259	.795
Openness to Experience	0.054	1.295	.195	0.032	1.080	0.280	0.022	0.430	.667
Emotional Stability	0.030	0.944	.345	0.010	0.284	0.776	0.020	0.430	.667
Direct Effects to Leader Perceptions									
Intercept	8.897	3.907	< .001	7.167	3.810	< .001			
Sex	0.253	0.416	.678	0.957	1.533	. 197	-0.703	-0.806	.420
Race	**-1.695**	**-2.603**	**.009**	**-2.062**	**-3.205**	**0.001**	0.366	0.400	.689
Motivation to Lead	**1.738**	**4.134**	**< .001**	**1.901**	**5.451**	**< .001**	-0.163	-0.298	.765

Note. Results reported here are reported here are pooled over the 10 imputed files. Sex: 0 = male and 1 = female. Race: 0 = Caucasian and 1 = non-Caucasian (African American, Asian, Arabic, Mixed, or Other). Nestedness was controlled for.

Table 4: Indirect Effects of Individual Differences on Others' Overall Perceptions of Leadership through Motivation to Lead by Collective Regulatory Focus Condition

	Sobel Test of Indirect Effects								
	Promotion CRF			Prevention CRF			Wald Test		
Predictors	*b*	*t*	*p*	*b*	*t*	*p*	*W*	*t*	*p*
Chronic Promotion Focus	**0.192**	**2.292**	**.022**	0.140	1.539	.124	0.052	0.420	.675
Chronic Prevention Focus	-0.075	-1.056	.291	0.042	0.735	.462	-0.117	-1.284	.199
Extraversion	**0.288**	**2.940**	**.003**	**0.304**	**4.015**	**< .001**	-0.016	-0.132	.895
Agreeableness	-0.060	-0.904	.366	**-0.142**	**-2.163**	**.031**	0.082	0.884	.377
Conscientiousness	**0.213**	**3.740**	**< .001**	**0.211**	**2.660**	**.008**	0.003	0.028	.978
Openness to Experience	0.095	1.416	.157	0.061	1.035	.301	0.033	0.373	.709
Emotional Stability	0.052	0.920	.358	0.019	0.286	.775	0.033	0.387	.699

Note. Results reported here are reported here are pooled over the 10 imputed files.

Table 5: Summary of Model Fit Indices for Exploratory Analyses

	χ^2	df	*p*	RMSEA	CFI	TLI	$SRMR_{within}$	AIC	BIC
MISSPECIFICATION MODEL TESTS									
[a]FFM, RF → MTL → Lead	44.799	19	< .001	0.083	0.033	0.880	0.761	2820.748	2927.903
FFM → MTL → Lead	42.964	15	< .001	0.098	0.038	0.869	0.737	2823.371	2914.651
RF → MTL → Lead	32.499	9	< .001	0.116	0.075	0.481	0.192	3555.137	3606.73
FFM DECOMPOSITION MODEL TESTS									
Conscientiousness (C): C → MTL → Lead	15.345	11	0.167	0.045	0.036	0.961	0.922	2889.427	2964.832
Openness to experience (O): O → MTL → Lead	15.276	11	0.170	0.045	0.035	0.962	0.924	2889.575	2964.981
Agreeableness (A): ES → MTL → Lead	16.827	11	0.113	0.052	0.036	0.945	0.890	2895.706	2971.112
Emotional Stability (ES):									
Full Mediation: ES → MTL → Lead	19.293	11	0.056	0.062	0.039	0.922	0.845	2895.775	2971.181
Partial Mediation: ES → MTL → Lead, ES → Lead	14.049	9	0.121	0.054	0.034	0.953	0.885	2894.973	2978.315
Direct Effects Only: ES, MTL → Lead	15.06	11	0.180	0.043	0.035	0.962	0.924	2892.438	2967.843
Extraversion (E):									
Full Mediation: E → MTL→ Lead	34.017	11	< .001	0.103	0.043	0.873	0.746	2832.507	2907.912
Partial Mediation: E → MTL → Lead, E → Lead	12.685	9	0.177	0.046	0.028	0.980	0.950	2817.667	2901.01
Direct Effects Only: E, MTL → Lead	77.380	11	< .001	0.176	0.078	0.634	0.267	2878.401	2953.806

[a]The original "split" model fit results are reported here again for convenience.

Note: When sets of variables are modeled, the general term is used, e.g., RF refers to a model where chronic promotion focus (Pro) and chronic prevention focus (Pre) are modeled. Variables sets will be decomposed if different effects are being tested for each individual variable. Arrows indicate direct effects. Commas between sets of variables indicate that they are all modeled as direct

effects onto the same variable, and are not directly affecting one another. Models with partial and full mediation tested are labeled. Fit statistics reported here are averaged across 10 imputed datasets; thus, RMSEA confidence intervals cannot be computed.

Table 6: Multilevel Path Analysis Results for Exploratory, Modified Model

	Promotion CRF			Prevention CRF		
Predictors	*b*	*t*	*p*	*b*	*t*	*p*
Direct Effects to Motivation to Lead						
Intercept	0.314	9.688	< .001	0.294	13.278	< .001
Chronic Promotion Focus	**0.116**	**2.872**	**0.004**	0.074	1.654	0.098
Chronic Prevention Focus	-0.056	-1.581	0.114	0.021	0.727	0.467
Extraversion	**0.162**	**5.603**	**< .001**	**0.161**	**6.409**	**< .001**
Agreeableness	-0.028	-0.690	0.490	**-0.073**	**-2.125**	**0.034**
Conscientiousness	**0.126**	**4.950**	**0.000**	**0.113**	**2.933**	**0.003**
Openness to Experience	0.058	1.398	0.162	0.033	1.139	0.255
Direct Effects to Leader Perceptions						
Intercept	**9.368**	**6.587**	**< .001**	**9.368**	**6.587**	**< .001**
Sex	0.114	0.231	0.817	0.808	1.288	0.198
Race	**-1.777**	**-3.023**	**0.003**	**-1.987**	**-2.929**	**0.003**
Motivation to Lead	**1.058**	**3.439**	**0.001**	**1.744**	**5.190**	**< .001**
Emotional Stability	-0.100	-0.681	0.496	**-0.393**	**-2.419**	**0.016**
Extraversion	**0.758**	**4.975**	**< .001**	0.126	0.715	0.475

Note: Results reported here are reported here are pooled over the 10 imputed files. Sex: 0 = male and 1 = female. Race: 0 = Caucasian and 1 = non-Caucasian (African American, Asian, Arabic, Mixed, or Other). Nestedness was controlled for.

Table 7: Indirect Effect Results for Exploratory, Modified Model

	Promotion CRF			Prevention CRF		
Predictors	*b*	*t*	*p*	*b*	*t*	*p*
Chronic Promotion Focus	**0.123**	**2.114**	**.034**	0.129	1.580	.114
Chronic Prevention Focus	-0.059	-1.363	.173	0.036	0.706	.480
Agreeableness	-0.030	-0.701	.483	**-0.127**	**-2.028**	**.043**
Conscientiousness	**0.133**	**2.986**	**.003**	**0.197**	**2.649**	**.008**
Openness to Experience	0.062	1.487	.137	0.058	1.075	.282

Note. Results reported here are reported here are pooled over the 10 imputed files.

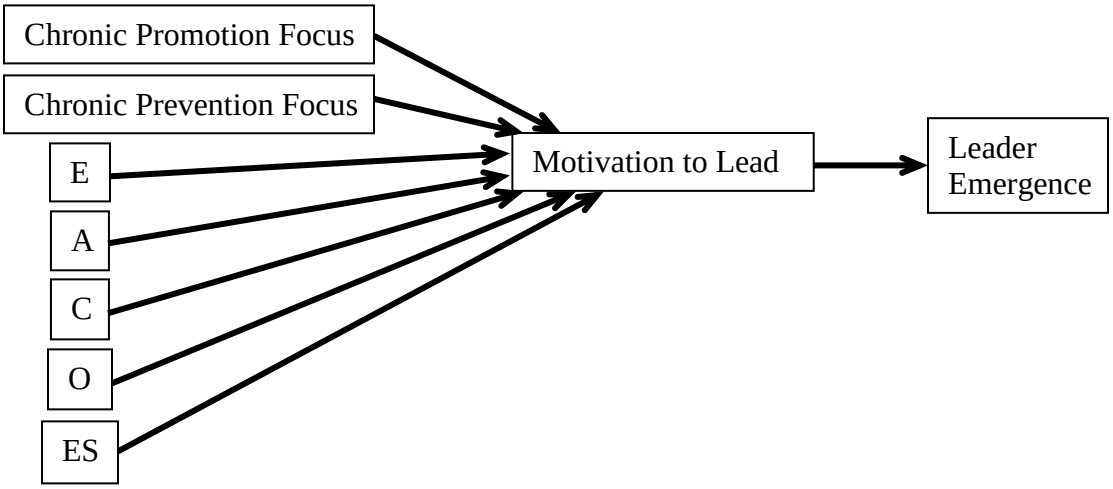

Figure 1: General Path Model

Note: Figure illustrates the general multilevel regression path model tested in both groups (individual level). Sex and race are controlled for at the individual (within) level, which the interdependence of the data are controlled for at the group (between) level.

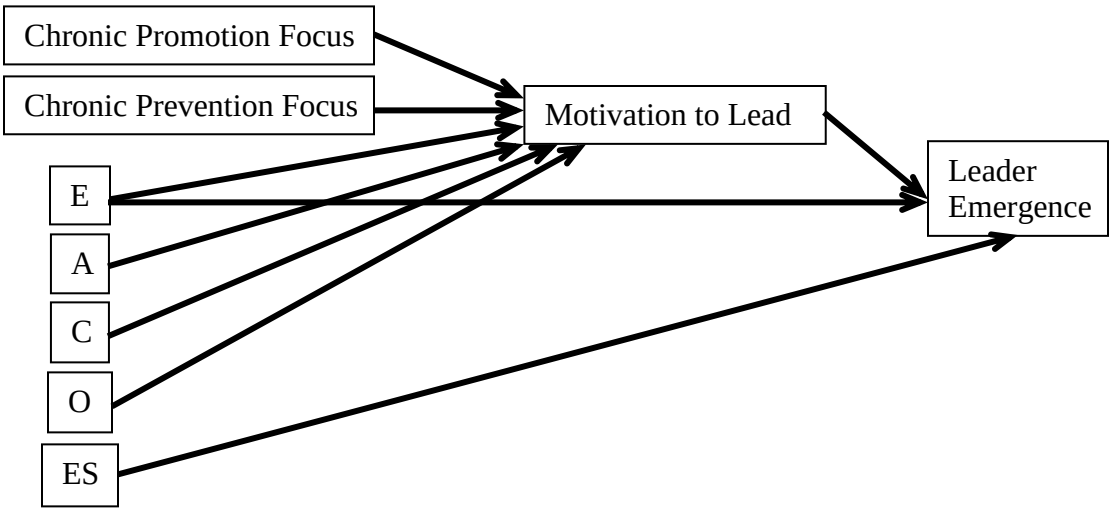

Figure 2: Modified, Exploratory Path Model

Note: Exploratory model based on respecification procedure which illustrates the multilevel regression model summarizing general hypothesized relationships among all variables. Sex and race are controlled for at the individual (within) level, which the interdependence of the data are controlled for at the group (between) level. Differences from the original split model: The direct effect from emotional stability to motivation to lead was removed and replace with a direct effect to leader emergence. A direct effect path was added from extraversion to leader emergence to illustrate the partial mediation effect.

APPENDIX A

ORIENTATION QUESTIONNAIRE EVOLUTION

	Pilot 1 Questions	**Pilot 2 Questions**	**Current Study**
Orientation Item(s)			
Buy-in	I feel like the company needs my team to win this bid.	I feel like the company needs my team to meet the team's goal.	The company needs my team to meet the goal.
Commit-ment	-	The team should… 1 = *Avoid failing the presentation*; 7 = *Achieve a successful presentation*	The team should… 1 = *Avoid failing the presentation*; 7 = *Achieve a successful presentation*
Manipulation Checks			
Prevention (Likert-like Item)	I feel responsible for ensuring that my team is doesn't fail.	I feel responsible for ensuring that my team's presentation doesn't fail.	(Item dropped)
Promotion (Likert-like Item)	I feel responsible for ensuring that my team succeeds.	I feel responsible for ensuring that my team's presentation succeeds.	(Item dropped)
Prevention (Likert-like Item)	The team should focus on highlighting the quality of the product.	The team should focus on highlighting the quality of the product.	The team should focus on highlighting the quality of the product.
Promotion (Likert-like Item)	The team should focus on highlighting the innovativeness of the product.	The team should focus on highlighting the innovativeness of the product.	The team should focus on highlighting the innovativeness of the product.
Prevention (Likert-like Item)	Given the situation, the team should take a risk and "go for broke" in order to win the bid.	Given the situation, the team should avoid risk and "play it safe" during their presentation.	Given the situation, the team should avoid risk and "play it safe" during their presentation.
Promotion (Likert-like Item)	Given the situation, the team should avoid risk and "play it safe" in order to not lose the bid.	Given the situation, the team should take a risk and "go for broke" during their presentation.	Given the situation, the team should take a risk and "go for broke" during their presentation.
Prevention	This job requires attention to detail and	This job requires attention to detail and	(Item dropped)

(Likert-like Item)	planning.	careful planning.	
Promotion (Likert-like Item)	This job requires creativity and exploration of ideas.	This job requires creativity and exploration of ideas.	(Item dropped)
Bidimen-sional	-	The team should focus on… 1 = *Highlighting the innovative-ness of the product*; 7 = *Highlighting the quality of the product*	The team should focus on… 1 = *Highlighting the innovative-ness of the product*; 7 = *Highlighting the quality of the product*
Bidimen-sional	-	Given the situation, the team should… 1 = *Avoid risk and "play it safe"*; 7 = *Take a risk and "go for the big win"*	Given the situation, the team should… 1 = *Avoid risk and "play it safe"*; 7 = *Take a risk and "go for the big win"*
Bidimen-sional	-	Marketing the product will require… 1 = *Creativity and exploring ideas*; 7 = *Attention to detail and careful planning*	Marketing the product will require… 1 = *Creativity and exploring ideas*; 7 = *Attention to detail and careful planning*

APPENDIX B

MARKETING TASK INTRODUCTION – REGULATORY FOCUC PRIMES

Promotion-Focus Prime

Your marketing consulting firm, Kama Corp., assists other organizations in developing a "brand" for their products and services, as well as strategies to best market that brand. Your company works closely with market researchers to provide your team with the best information available to assist your clients.

Kama Corp. Mission Statement

Your company is a well-respected firm known for its creative and innovative approach to marketing new products and services. Kama Corp. is a company that values creative thought and change. Kama Corp.'s approach to marketing new products and services seeks to exceed the standard: Kama Corp. will go above and beyond to creatively market new products and services for their clients.

Shina Inc., a large product development company, is a potential client that your board of directors would like to acquire. To do so, Kama Corp. needs your team to win over this lucrative potential client.

Your team's goal: *WIN THE CLIENT*.

Your Teams' Potential Client

Kama Corp. has assigned you and your teammates to attract this new client by creating a pitch for their new product. As part of the pitch, your team will generate a name and a catchy tagline for the new product, and design a commercial. Your team will also develop an advertising strategy for the company, including recommendations on what media outlets they should use in order to maximize their profits. Shina Inc. will then compare your presentation to the other marketing firms to decide if they will sign the contract or decline your team's services.

Prevention-Focus Prime

Your marketing consulting firm, Kama Corp., assists other organizations in developing a "brand" for their products and services, as well as strategies to best market that brand. Your company works closely with market researchers to provide your team with the best information available to assist your clients.

Kama Corp. Mission Statement

Your company is a well-respected firm known for its high quality and reliable approach to marketing new products and services. Kama Corp. is a company that values efficiency and tradition. Kama Corp.'s approach to marketing new products and services seek to set the standard: Kama Corp. will meet every challenge to effectively market new products and services for their clients.

Shina Inc., a large production development company, is a current client whose contract is coming up for renewal. To do so, Kama Corp.'s board of directors needs your team to secure the existing relationship with this lucrative client.

Your team's goal: *KEEP THE CLIENT*.

Your Teams' Client

Kama Corp. has assigned you and your teammates to keep this current client by creating a pitch for their new product. As part of the pitch, your team will generate a name and a catchy tagline for the new product, and design a commercial. Your team will also develop an advertising strategy for the company, including recommendations on what media outlets they should use in order to maximize their profits. Shina Inc. will then compare your presentation to the other marketing firms to decide if they will renew or cancel their contract.

APPENDIX C

CLIENT AND PRODUCT DESCRIPTIONS AND TASK INSTRUCTIONS

About Shina Inc.

Shina Inc. is a company that designs and produces a wide-range of products that it sells through television commercials, infomercials, and catalogs. Shina Inc. wants to develop their new product for mass production: an inflatable air mattress that can be used as a sofa, a lounger, a queen size mattress, or a twin size mattress. Shina Inc. has provided your group a description and pictures of the new product:

"This inflatable air mattress can be inflated and deflated into four different pieces of furniture. By inflating or deflating different parts of the mattress, it easily and quickly transforms from a queen-size mattress, to a lounger chair, to a three seat-sofa, to a twin bed. When you are not using the inflatable mattress, it folds up small and can be stored easily."

Instructions

1. *Know your client:* Read through all of the information provided about the client company (Shina Inc.) about the product (see "About Shina Inc." document).

2. *Prioritize the most important part of your pitch:* As a group, choose whether you want to start with the advertising strategy or the product pitch. Your team can work on only one of these parts at a time, and you must finish all of the requirements for each part of the bid before moving on to the other. Tell the experimenter which part of the pitch your team would like to work on first.

   ADVERTISING STRATEGY:

   For this part, your team will be developing an advertising strategy for Shina Inc.'s new product. This will involve assessing information about various media outlets to determine how Shina Inc. should allocate their advertising budget. Your team will offer recommendations for which media outlets Shina Inc. should pursue in order to maximize their profits.

   PRODUCT PITCH:

   For this part, your team will be developing an advertising campaign for Shina Inc.'s new product. This will involve assessing the target audience, and identifying the most important characteristics of the product to focus on in your advertising. Your team will generate a name, catchy tagline, and a sketch of a brief commercial as part of your pitch.

3. *Evaluate your work:* Each of these parts of your marketing task will be evaluated by Shina Inc. to determine whether your team wins their business. At the end of each section, evaluate your work to ensure that your team makes the best presentation for Shina Inc, and reaches your team's ultimate goal.

APPENDIX D

ORIENTATION QUESTIONNAIRE

What is your team's goal? _____

Discuss the following items below with your team. Indicate how much your team collectively agrees or disagrees with the following statements, based on how you all think your team should approach the marketing of Shina Inc.'s new product.

1	2	3	4	5	6	7
Disagree strongly	Disagree moderately	Disagree a little	Neither agree nor disagree	Agree a little	Agree moderately	Agree strongly

_____ 1. We feel like the company needs our team to meet the goal.

_____ 2. We should focus on highlighting the quality of the product.

_____ 3. We should focus on highlighting the innovativeness of the product.

_____ 4. Given the situation, we should take a risk and "go for broke" during our presentation.

_____ 5. Given the situation, we should avoid risk and "play it safe" during our presentation.

Given the following options, how do you think your team should approach the marketing of Shina Inc.'s new product?

1. We should…

1	2	3	4	5	6	7
Avoid failing the presentation			Disregard the results of the presentation			Achieve a successful presentation

2. We should focus on…

1	2	3	4	5	6	7
Highlighting			Highlighting			Highlighting

the innovative-ness of the product			neither the innovativeness nor the quality			the quality of the product

3. Given the situation, we should…

1	2	3	4	5	6	7
Avoid risk and "play it safe"			Neither avoid nor take a risk			Take a risk and "go for the big win"

4. Marketing the product will require…

1	2	3	4	5	6	7
Creativity and exploring ideas			Neither creativity nor careful planning			Attention to detail and careful planning

APPENDIX E

PRODUCT PITCH

Instructions:

Part of your bid needs to include recommendations for Shina Inc. to best advertise their new product. Review the information about the product. Answer the following questions about how your team would brand and advertise this product for Shina Inc. As part of your bid, your team will need to develop a plan for a commercial for this product while highlighting the unique aspects of your marketing company to your client.

Product description:

This inflatable air mattress can be inflated and deflated into four different pieces of furniture. By inflating or deflating different parts of the mattress, it easily and quickly transforms from a queen-size mattress, to a lounger chair, to a three seat-sofa, to a twin bed. When you are not using the inflatable mattress, it folds up small and can be stored easily.

Who would you recommend as the target audience(s) for this product? To whom does your team recommend Shina Inc. target their advertisement?_____

_____

What are the most important characteristics of this product that your team wants to highlight?

_____

_____

_____

_____

Product name:

As a group, generate a list of potential names for the product.

Please use the space provided to list <u>all</u> of the names that your group generates for the product. You do not need to use all of the spaces; if you need more spaces, please attach another paper.

1. _____
2. _____
3. _____

4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Come to a consensus about the best name for the product.

Look at all of the potential names that your group generated for the product. Decide as a group the best name for the product. In the space below, write the name of the product.

*PRODUCT NAME***:**

_____

Product tagline:

As a group, generate at list of potential taglines for the product.

Please use the space provided to list <u>all</u> of the taglines that the group generates for the product. You do not need to use all of the spaces; if you need more spaces, please attach another paper.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Come to a consensus about the tagline for the product.

Look at all of the potential taglines that your group generated for the product. Decide as a group the best tagline for the product. In the space below, write the tagline for the product:

PRODUCT TAGLINE:

_____

_____

Commercial:

Given your company's reputation for their unique approach (see Kama Corp. Marketing Consulting Firm sheet) to marketing new products, create a commercial that highlights both your company's, and the product's, best features.

In your team's experience, the following elements are useful to making memorable and effective commercials:

(a) Represent the brand clearly: use verbal and visual cues to highlight the most important aspects of the product.
(b) Create a storyline or overarching message: Tell a story that the target audience—and the client—can relate and connect to.
(c) Keep it simple: Complicated storylines or concepts can confuse the overall message and effectiveness of the commercial.
(d) Include a "call to action": Include some form of call to action to get customers to buy or act now, including contact information.

Shina Inc. has their own requirements:

(a) It should not be shorter than 50 seconds, but no more than 70 seconds.
(b) It should include the name and tagline.
(c) It should be appropriate for the target audience.
(d) It should highlight the characteristics that your team determines are the most valuable.

Describe the commercial in detail. How are you going to introduce the product? What is the location? Who or what is in the commercial? What are they doing? Write out each scene or part of the commercial and fit it within the allotted time. The allotted time is sectioned off in the left column. Write with enough detail that Shina Inc. can evaluate the commercial. (Visuals can be drawn or described in words.)

Time	**Scene Description**	
	Visual	**Audio**
0 – 10 seconds		

10 – 20 seconds		
20 – 30 seconds		
30 – 40 seconds		
40 – 50 seconds		
50 – 60 seconds		
60 – 70 seconds		

Product Pitch Evaluation

As a team, evaluate the commercial. Circle the description that best matches your team's evaluation of your pitch:

How creative is your commercial?

1	2	3	4	5
Not very creative	A little creative	Somewhat creative	Creative	Very creative

How effective is your commercial at highlighting the positive characteristics of the product?

1	2	3	4	5
Not very effective	A little effective	Somewhat effective	Effective	Very effective

Based on other commercials about similar products, how do you think your commercial rates?

1	2	3	4	5
Well below average	Below average	Average	Above average	Well above average

How appropriate is the commercial for the client?

1	2	3	4	5
Not very appropriate	A little appropriate	Somewhat appropriate	Appropriate	Very appropriate

How confident is your team that this commercial will help [**win/keep] the client**?

1	2	3	4	5
Not very confident	A little confident	Somewhat confident	Confident	Very confident

To what extent does the commercial reflect your company, Kama Corps', mission?

1	2	3	4	5
Not at all reflecting the mission	Reflects the mission a little	Somewhat reflects the mission	Reflects the mission quite a bit	Reflects the mission a lot

If your team as a whole is not satisfied with some part of the product pitch, revise the sections and update your team's answers the evaluation questions. (Clearly cross out the old answer, and circle the new one.)

APPENDIX F

ADVERTISING STRATEGY

Instructions:

Part of your bid should include recommendations for Shina Inc. to best publicize the "brand" of their new product through various advertising outlets. Using the information provided, answer the questions to inform your team's recommendations to maximize Shina Inc.'s profits. Spaces for calculations are provided.

Television Advertising:

Shina Inc. allocates between 10-15% of their total investments on advertising. On average, their initial investment for the advertising budget is between $78,974,000.00 and $118,461,000.00 per month.

Based on your company's market research, your team has compiled a list of potential outlets for advertising this product (see table). Broadcast refers to the local affiliate of stations such as ABC, NBC or CBS. Cable refers to the stations that you have to pay extra for such as MTV, VH1, TLC.

		Cable		Broadcast	
Ad-spot	**Time**	**CPM**	**Avg # of Viewers**	**CPM**	**Avg # of Viewers**
Morning	3 a.m. – 5 a.m.	39.94	1,997,000	64.78	799,000
	6 a.m. – 11 a.m.				1,980,000
Afternoon	12 p.m. – 4 p.m.	52.75		84.01	2,879,000
Evening	5 p.m. – 10 p.m.	108.80	3,080,000	162.94	5,406,250
Late-night	11 p.m. – 2 a.m.	48.18		75.11	4,148,000
Age Category		**% Viewers**		**% Viewers**	
Children (ages 4-15)		11%		17%	
Teenagers and young adults (ages 16-35)		51%		35%	
Middle-aged and older adults (ages 36-65)		38%		48%	

Strategy:

How much money does your team recommend Shina Inc. allocate for their advertising budget per month? _____

They expect to sell each unit for $500. How many units need to be sold to break even on the initial advertising investment? _____

Who would you recommend as the target audience(s) for this product? To whom does your team recommend Shina Inc. target their advertisement? Why? _____

_____

_____

Cost of Commercial Advertising:

Television advertising is priced on a Cost per Thousand (CPM) basis, which is the cost for one ad to be seen by 1,000 people per day. The CPM varies widely depending on a few different factors, including the target demographic, the total expected viewership (the number people exposed to the ad), the time of day the ad is run, and the outlet.

Below are the expected fair cost (*CPM * viewers in thousands*) for each ad-spot for each station for <u>one</u> commercial.

Ad-spot	**Cable**	**Broadcast**
Morning (3 a.m. – 11 a.m)	$79,760.18	$179,426.75
Afternoon (12 p.m. – 4 p.m.)	$105,341.75	$241,850.40
Evening (5 p.m. – 10 p.m.)	$335,104.00	$880,894.38
Late-night (11 p.m. – 2 a.m.)	$148,394.40	$311,556.28

Television stations typically offer "packages" to companies who want to buy airtime. Evaluate the packages to determine which your team would recommend to Shina Inc. The cable packages come with 5 commercials per day, while the broadcast packages come with 3 commercials per day.

Name	**Package**	**Number of Commercials**	**Package Price (per month)**

Cable Package 1	Morning & Afternoon & Evening	5	$78,030,889.50
Cable Package 2	Evening & Late-Night	5	$72,524,760.00
Broadcast Package 1	Morning & Evening	3	$95,428,901.25
Broadcast Package 2	Afternoon & Late-Night	3	$49,806,600.75

Based on the budget and package prices, which package(s) would you recommended to Shina Inc. and why?

_____

_____

_____

Marketing Trends:

Your team's market research shows the following purchasing trends for similar products in the past year. Data were gathered from cable and broadcast viewers between the ages of 18 and 65. Products were advertised throughout the day between 3 and 5 times. (1 item = 1 unit).

		Percentage of viewers who purchased 1 unit (per month)	
Item	**Cost per unit**	**Cable**	**Broadcast**
Inflatable air mattress (queen)	$320	2.665%	2.498%
Raised air bed (twin)	$175	2.897%	2.669%
Inflatable lounger	$200	2.699%	2.494%
Inflatable sofa	$280	3.055%	2.874%

Apply the marketing trends provided to calculate the approximate number of units of the new product is likely to sell (per month) during each ad-spot based on the approximate number of viewers your team expects to view the commercial.

Based on the market trends provided, what percentage of viewers (for cable and broadcast) would you expect to purchase Shina Inc.'s new product?

_____

Why? _____

_____

Using the percentage above, calculate the approximate number of units you would expect to sell with each package. (*Number of units sold = Average # of viewers * % of viewers expected to purchase 1 unit*):

Cable Package #1: _____

Cable Package #2: _____

Broadcast Package #1: _____

Broadcast Package #2: _____

Expected Revenue & Profits:

Your advertising campaign will directly influence how much money this product makes while on the market. Your teams' goal is to determine how to MAXIMIZE PROFITS.

What is the expected revenue for the month? That is, how much money should Shina Inc. expect to make in the first month? (*Expected revenue = Number of units sold * Price of product*):_____

What is the expected profit from your recommendation? (*Profit = Expected revenue – Total investment*): _____

Your Team's Advertising Strategy:

Summarize your team's recommendations to convince Shina Inc. that your team's analysis will be lead to the most effective advertising strategy. In the pitch, include the following elements:

- Your team's recommendation for how much Shina Inc. should allocate toward advertising, the target audience, and profit based on number of units expected to sell. (Use the space provided below to outline your team's recommendations and justifications.)
- Why your company, Kama Corp., is uniquely qualified to be Shina Inc.'s marketing team.

Summary of Advertising Strategy Pitch: _____

_____

Advertising Strategy Evaluation

As a team, objectively evaluate the advertising strategy. Circle the description that best matches your team's evaluation of your pitch:

How effective is your pitch at presenting the most pertinent information?

1	2	3	4	5
Not very effective	A little effective	Somewhat effective	Effective	Very effective

Rate the quality of your team's overall advertising strategy pitch:

1	2	3	4	5
Inferior	Substandard	Adequate	Acceptable	Superior

Based on your team's justifications, how do you think your pitch rates?

1	2	3	4	5
Well below average	Below average	Average	Above average	Well above average

How appropriate are the recommendations for the client?

1	2	3	4	5
Not very appropriate	A little appropriate	Somewhat appropriate	Appropriate	Very appropriate

How confident is your team that this advertising strategy will help **[win/keep] the client**?

1	2	3	4	5
Not very confident	A little confident	Somewhat confident	Confident	Very confident

To what extent does the advertising strategy reflect your company, Kama Corps', mission?

1	2	3	4	5
Not at all reflecting the mission	Reflects the mission a little	Somewhat reflects the mission	Reflects the mission quite a bit	Reflects the mission a lot

If your team as a whole is not satisfied with some part of the advertising strategy, revise the sections and update your team's answers the evaluation questions. (Clearly cross out the old answer, and circle the new one.)

APPENDIX G

POST-TASK QUESTIONS

Discuss the items below with your team. Choose the answer that most accurately describes your team's decision-making processes, choices, and overall evaluation of the task.

1. Which aspect of the task did your team choose to complete first?
    a. Developing a product pitch (creating a name, tagline, brief commercial to brand the product)
    b. Developing an advertising strategy (assessing and recommending media outlets to maximize profits)

2. Which aspect of the task did your team find the most challenging?
    a. Developing a product pitch (creating a name, tagline, brief commercial to brand the product)
    b. Developing an advertising strategy (assessing and recommending media outlets to maximize profits)
    c. Neither were particularly challenging
    d. Both were challenging

3. Which aspect of the task did your team think was the most important part to work on?
    a. Developing a product pitch (creating a name, tagline, brief commercial to brand the product)
    b. Developing an advertising strategy (assessing and recommending media outlets to maximize profits)

4. Which aspect of the task do you wish your team had more time to work on?
    a. Developing a product pitch (creating a name, tagline, brief commercial to brand the product)
    b. Developing an advertising strategy (assessing and recommending media outlets to maximize profits)
    c. Both, we didn't finish/we were rushed to complete both parts.
    d. Neither, we had plenty of time to complete both.

5. How confident are you that your team's product pitch (creating a name, tagline, brief commercial to brand the product) will help your team successfully reach your goal?

1	2	3	4	5
Not at all confident	A little confident	Somewhat confident	Quite confident	Very confident

6. How confident are you that your team's advertising strategy (assessing and recommending media outlets to maximize profits) will help your team successfully reach your goal?

1	2	3	4	5
Not at all confident	A little confident	Somewhat confident	Quite confident	Very confident