An Analysis of Autocratic and Democratic Leadership Styles in the Contingency Model: Time Urgency as a Mediating Variable in Leadership and Group Efficacy

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ABSTRACT

This thesis examined measures of group efficacy under opposing leadership styles in both the presence and absence of time pressure. Previous research revealed that time pressure increases a task's complexity, however the effect that leadership has on group's collective efficacy remains relatively unknown. Fielder's contingency model (Northouse, 2001) was utilized to make predictions of individual reports of group efficacy within time-urgent and non time-urgent conditions. Leadership style was manipulated to determine whether there was a mediating effect in efficacy levels in different time pressure conditions. The study did not find any conclusive evidence suggesting that leadership plays a role in affecting general group efficacy when groups perceive time pressure; although, leadership style did affect participant's ratings of time-base group efficacy. In support of prior research, general group efficacy was found to positively affect time-based efficacy.

TABLE OF CONTENTS

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Chapter I

ISSUES WITH GROUPS AND LEADERS

"If no one is following, one cannot be leading."

-Victor H. Vroom & Arthur G. Jago

Relatively little research has been conducted on the effects of time urgency and leadership style on group performance (Durham, Locke, Poon, & McLeod, 2000; Kleij, Rasker, Lijkwan, & Dreu, 2006; McGrath & Tschan, 2007; Waller, Conte, Gibson, & Carpenter, 2001). Determining generally effective leadership styles is imperative for many organizations. In most workplace settings, groups are commonly used for a variety of reasons (e.g., marketing strategies, brainstorm sessions, task completion), and for the past few decades, organizations have shifted toward a team approach in meeting organizational needs (Gibson, Randel, & Early, 2000; Gully, Incalcaterra, Joshi, & Beaubien, 2002). Furthermore, groups may find themselves working under different conditions from one project to the next, though one condition tends to be common: time urgency.

As organizations incorporate models such as The Leadership Grid, Situational Leadership II (SLII), and others into their organizational development programs, the need arises to further our understanding of how these models are affected by time urgency, which is defined as an individual's reaction to time sensitive tasks. Currently, leadership models include concern for task/relationship building, as seen in the The Leadership Grid

or employee skill level and organizational commitment, as demonstrated in the SLII, though there are major limitations within these models. For example, in the former the link between style and job satisfaction and productivity remains ambiguous; in the latter the match between leadership style and employees' development level seem irrelevant for seasoned employees (Northouse, 2001). Additionally, the extent to which time urgency influences group-leader situations is unclear and thus the prescriptive process within SLII's theoretical framework remains ambiguous.

Group Performance

A majority of companies have established programs for leadership development. Their goal is to establish a process for effectively training employees within the organization who can thus improve the effectiveness and productivity of their subordinates. Situational leadership theory has seen an increased use in organizations over the years in the form of SLII (Northouse, 2001). However, the situational model does not clearly address the role of group leadership, nor have time-based issues been adequately addressed within the model. In terms of group performance, research shows that effective groups generally display relatively higher levels of group efficacy than those who are less effective at a given task (Gibson et al., 2000; Gully et al., 2002; Hoyt, Murphy, Halverson, & Watson, 2003). The distinction between efficacy and general confidence is the former is task-specific (Pescosolido, 2003).

A measure of group efficacy should provide us the ability to predict how effective a group will be on similar future tasks. We can relate a group's effectiveness to the degree that their decisions add value to the organization. There is a strong preference for group decision-making rather than individual decision-making in many fields, including

business, public policy, politics, and education (Bonner, Baumann, Lehn, Pierce, & Wheeler, 2006; Hansen, 2006; Somech & Drach-Zahavy, 2007). Many organizations seek to understand how their leaders can facilitate these processes (Vroom & Jago, 2007). Furthermore, with deadlines becoming ever more relevant to successful job performance, understanding how time urgency and leadership style influence group efficacy.

Individual Input on Group Processes. To determine what facilitates effective group performance, we must first understand what facilitates effective individual performance. Groups may be limited in their ability to perform a given task because some or all members lack the necessary knowledge, skills, or abilities. Gully, Incalcaterra, Joshi, and Beaubien (2002) suggest that a potential source for modeling and predicting group effectiveness may stem from research on individual performance. Indeed, the composition of a group influences the performance of the group (Keinan & Koren, 2002). One of the arguments for group-based structures is embedded in the notion that different members are able to broaden the group's initial knowledge base (Ilgen, Hollenbeck, Johnson, & Jundt, 2005).

Groups often do not take advantage of the unique experience and knowledge offered by all of its members. However, Ilgen et al. (2005) suggested that the group's ability to know which member is most knowledgeable with respect to making a decision is highly valuable as well; a phenomenon that plays well in situations where there is a high level of perceived authority from leaders. Yet, research found that too much knowledge may hinder performance (Hunter, 2004). The relationship may be due to information overload. Groups need to balance their understanding of alternatives with their ability to be effective and efficient. The current study limited participant's

"knowledge of" to advertising and production cost; these were the only two options available for discussion in the scenarios.

Models and Characteristics of Effective Group-Work. Using the tri-level matching theory, Brophy (2006) suggested that different types of problems are best solved by different types of group members. For example, if new ideas need to be evaluated, group members who have higher levels of ideation-evaluation would be better suited for the task. Brophy also reported on a number of studies conducted on group performance and decision-making, suggesting that groups comprised of low-anxiety members typically perform better compared to those groups whose members have higher levels of anxiety. Because individual characteristics of members may affect group performance and outcomes, examining the time urgency behavior in individuals with respect to leadership style may prove crucial to understanding how groups function under similar conditions.

Group Functioning. Having discussed how individuals engage in decision-making, I will focus my discussion on the proper conceptualization of group functioning. That is, what types of methods have been used for the purposes of group analysis, what do these methods tell us about group functionality, and what does research have to say about current methods of group analysis. As previously stated, knowledge of a problem assists in the decision-making process. If we examine group decision-making under the input-process-output (I-P-O) model, group member knowledge, attitudes, and even behaviors would be integrated into the decision making process, affecting group performance and the final outcome (Ilgen et al., 2005). I-P-O is a classical view of group performance, suggesting that certain kinds of input lead to pre-determined outputs.

Leadership is categorized as an input. According to Ilgen et al., prior to 1996, much of the research conducted on group performance dealt with the overall outcome of the group (see Ilgen et al., 2005). The focus was on what made some group's outcomes more effective than others.

Ilgen et al. (2005) reviewed the literature on group performance and suggested that the I-P-O model is insufficient in characterizing teams for three specific reasons. First, there are certain mediational factors that are not processes in and of themselves (e.g., cognitive states) that the group may use as a means of evaluating certain input information and the eventual outcome. For example, with all other things being equal, a sleep deprived team is more likely to perform poorly compared to a team that is not sleep deprived. Second, I-P-O implies a single linear path from inputs to outputs. Linear paths ignore the effects of feedback on group performance (leadership can provide direct and immediate feedback), and as any behaviorist would confirm, feedback affects behavior. Finally, the I-P-O model suggests a linear progression to any main effect, completely ignoring interactions among inputs and processes themselves.

Effective groups are those groups whose members have effective teamwork skills, such as understanding team dynamics and cooperation and communication skills (Hansen, 2006). Hansen reported that attitudes toward teamwork may increase the group's effectiveness. A popular method of conceptualizing a company's structure is viewing it in terms of team-based organizations (Somech & Drach-Zachavy, 2007). Somech and Drach-Zachavy reported that team work may be a more efficient method in terms of completion of institutional goals and confirmed that group members' exchange of knowledge and information is crucial to a team's performance. The notion of schools

as team-based organizations, as proposed by Somech and Drach-Zachavy, is yet another example of the practicality of conducting research on group decision-making and performance. By increasing the understanding of groups and teamwork, the effectiveness many organizations may be improved.

Kleij et al. (2006) noted that setting, in reference to both space and time, in which group members communicate has a strong affect on performance. Likewise, the richer a communication medium is (e.g., an e-mail is not particularly a rich medium; whereas, a face-to-face meeting is) in meeting the needs of a task, the chances increase for successful group performance. Communication becomes a more relevant group skill in terms of efficacy and performance when members do not share the same geographical location. The study conducted by Kleij et al. looks at the interaction communication and time pressure has on group planning. Groups, when in time-urgent conditions, tend to seek task completion as a main objective. However, this may cause a decrease in the quality of work produced by the group.

Leadership Theory

Although there is a plethora of literature which discusses leadership styles and theories (Deluga, 1990; Chemers, 2000; Chen, Sharma, Edinger, Shapiro, & Farh, 2011; House & Aditya; Neri, 206; Northouse, 2001; Sosik, Avolio, & Kahai, 1997; Vroom & Jago, 2007), there are as many definitions of leadership as there are theories concerning its effectiveness. Although effective leadership strategies have been identified in prior research (Northouse, 2001; Chen et al., 2011), time pressure may affect the leader's and group's efficacy in relation to completing tasks and achieving organizational goals. Since much research has been devoted to uncovering and understanding the relationships

between leaders and members within a group (Kabanoff, 1981; Powell & Butterfield, 1984; Schoo, 2008; Shaw & Blum, 1966), the current study will determine whether time pressure affects the task structure in which they work.

Many approaches to understanding and studying leadership have emerged over the years (Northouse, 2001). The most prominent theories are the trait approach, leader behavior or style approach (outlined in the Leadership Grid and SLII), and contingency theory (Deluga, 1990; Northouse, 2001; Spector, 2006). Chemers (2000) argues that leaders should adopt a style that would establish and confirm their leadership authority by means of appearing competent and trustworthy. Moreover, effective leaders should guide and support the group in a manner allowing members to contribute to the achievement of the group's overall goal. These approaches, well established in leader style theories, have yet to be tested under time pressure.

Trait Theory. The trait approach was the first systematic attempt by social science to study leadership (Northouse, 2001). An important concept to remember in trait theory is that non-personality traits (e.g., motivation, intelligence, knowledge) are excluded from the underlying principles of trait theory (Judge, Bono, Ilies, & Gerhardt, 2002). This paradigm suggests that it is possible to determine who would make a better leader based on good-leader traits. Judge et al. (2002) commented on the trend certain leadership theorists have taken in suggesting that trait theorists oversimplify understanding leadership and suggested that finding a universal set of leadership traits would be useless endeavor.

A major criticism of the trait approach is its inability to consistently identify a set of traits one can call *leadership traits*. Some theorists, such as House and Aditya (1997)

view this dilemma as an early trait theory research problem. In fact, some traits have been observed to be predictive of an individual's characteristic behavior in certain situations (Schneider, 1983, as cited in House & Aditya, 1997). Furthermore, researchers have noted that an individual's dispositions may be sustained for a long period of time, though these dispositions may not be lifelong. The assumption is that traits are able to predict behavior in the short-term while the behavior itself may fluctuate over the long-term.

In a review of Stogdill (1948), House and Aditya (1997) pointed out that a rather consistent set of relationships among traits begins to emerge (as cited in House & Aditya, 1997). Judge et al. (2002) suggests that a personality model using only five factors, known as The *Big Five*, may be used as predictors for describing the most salient aspects of personality. The dimensions of the model are Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. Effective emergent leaders tend to receive high scores on the Big Five (Judge et al., 2002; Spector, 2006). The Big Five model easily lends itself to be applied to job performances; through the model we now have a workable taxonomy for classifying personality traits. Judge et al.'s meta-analytic study yielded a strong multiple correlation between the Big Five and leadership criteria, adding not only empirical support to trait theory, but a framework from which future studies ought to implement.

However, empirical investigation reviews on leadership effectiveness under the trait approach paradigm show relatively little attention toward measures of efficacy (Hoyt, Murphy, Halverson, & Watson, 2003). Although the theory may hold as valid assessment for emerging leaders, it does not adequately describe how a leader ought to

behave, i.e., which traits are more salient for specific tasks. For example, does openness to experience matter as a leadership trait to a group working under time pressure? The complexity of the various situations leaders, managers, and work groups face must be taken into account within a theory of leadership.

Leader Behavior Theory. Larsson and Vinberg (2010) noted that factor analysis conducted on leadership behavior theory typically yields two factors: relationship-oriented and structure-oriented. The leader behavior approach, also known as the behavior school of leadership, focuses not on the personality of the leader, but rather the actions taken by them. The assumption of the paradigm presupposes that there are effective universal leader behaviors (House & Aditya, 1997). According to researchers (Northouse, 2001; House & Aditya , 1997, Larsson & Vinberg, 2010), research on leader behavior theory offered two important contributions to leadership theory literature: the identification of two behavioral aspects of leadership and an advanced understanding of their dynamics. Under this theory, leadership styles, not leader personality, is the focus of research. This approach focuses on the observable actions and behavior of leaders and the consequences of those overt behaviors (Northouse, 2001). Some view the relationship between leader behavior and group member behavior as reciprocal (Sims & Manz, 1984). Leader behavior is typically viewed in a dichotomy where their actions/behaviors are categorized as task- or relationship-oriented.

Theories modeled on the style approach set out to explain how leaders combine task and relationship behaviors to motivate their subordinates. The most notable studies under this paradigm are The Ohio State and University of Michigan studies (Northouse, 2001). Researches administered a 150 questionnaire to multiple samples of employees

and ran the data through *factor analysis* in order to determine whether the data could be interpreted through fewer items called factors. Their analysis lead to two dimensions, or factors, of leadership styles: consideration and initiating structure. The result was the Leader Behavior Description Questionnaire (LBDQ). While researchers at Ohio State were working on the LBDQ, University of Michigan researchers were also studying leadership behavior, particularly the effects of leader behavior in small groups (Northouse, 2001). Research identified *employee-oriented* and *production-oriented* leader behaviors.

In a study on group leadership styles and group effectiveness, Sosik, Avolio, and Kahai (1997) found that leadership styles affect the group's effectiveness as well as the group's beliefs about their effectiveness for a given task (i.e., their efficacy). Duemer, Christopher, Hardin, Lezlie, Rogers, and Spiller (2004) reported the following as effective leadership characteristics: interpersonal skills, group management, time management, and expertise. Interpersonal skills are essential to group performance, and they maintain the group's perspective, as does effective group management. Expertise, one's knowledge of a given subject, is also crucial to group effectiveness in that knowledge may lend insight in terms of problem solving. Finally, time management, which facilitates the group's ability to maintain its focus, and decrease levels of stress that may be caused by time pressure is another important characteristic of effective groups.

The context of the situation dictates whether a leader ought to be focused more on task or relationship behaviors in addition to the type of leadership subordinates may require; either a lot of direction or a lot of support (Northouse, 2001). In either case, the

style approach allows leaders to reflect on how their behavior meets the needs of their subordinates, which demonstrates a great benefit to the style approach. Indeed, the leaders style approach provides a useful heuristic: a broad understanding of the complexity leadership affords (Northouse, 2001)

The literature does not adequately demonstrate how leader's styles are related to group performance (Northouse, 2001). However, Yukl (1994) pointed out that, although the link between leader style and group performance is not exactly clear, leaders who show more consideration toward group members often have more satisfied subordinates. If this finding is to be substantiated, then this study should find that democratic leaders, which are often seen as more considerate than autocratic leaders, should have more satisfied followers than autocratic leaders.

Contingency theory. Fiedler proposed his version of contingency theory on leadership in 1964, which at the time was a seemingly intuitive model based on three dimensions: relationship between leader and members, task structure, and inherent leader authority (as cited in Shaw & Blum, 1966). The basic thesis for the model is that general effectiveness for task-oriented and relationship-oriented leaders is contingent upon the three situational parameters noted above. Fiedler developed an attitude scale, the Least Preferred Coworker (LPC), to assess a leader's orientation; in this model, the degree of group effectiveness provides the criterion for leader effectiveness. The two leadership styles identified by the Ohio State and Michigan University studies, are used in the contingency model, which provides specific and general predictions for each, and identified by scores on the LPC; high LPC scores (e.g., LPC $\geq$ 89) indicate a supportive, relation-oriented leader and a low LPC score (e.g., LPC $\leq$ 74) indicates a directive, task-

oriented leader (Rice, Bender, & Vitters, 1982). Fiedler's theory states how situational, environmental, and group harmony impact leader behavior. Specifically, leadership effectiveness is a function of the interaction between leader the current situation (Fiedler, 1971, 1978). Fiedler's model was first to explain the situational factors that affect leader behavior and personality (House & Aditya, 1997).

Along with leader-member relations, task, structure, and position power, other variables such as stress, training, experience, and organizational culture have been used to describe situational favorableness (Rice et al., 1982). However, this model has yet to be tested in situations where individuals and groups will experience high levels of time pressure. Shaw and Blum (1966) found that when the group-task is highly favorable for the leader, directive, or autocratic leadership seems to be more effective than non-directive leadership. This finding supports Fiedler's model; directive, or task-oriented leadership should be effective even when the group-task is highly unfavorable for the leader. While the researchers confirmed that high task structures call for directive leadership, Fiedler's model suggests a dichotomous interaction between task-structure and consideration along with a measure of how favorable given situation is to the leader. Fiedler hypothesized that task-oriented leaders perform best in situations of high and low situational control, and relationship-oriented leaders perform best in situations of moderate control.

Fiedler's model is not without criticism. Kabanoff (1981) argues that research on Leadership Match suggests that evidence supporting the contingency model is not too persuasive because of the prevalent problem in identifying leadership effectiveness is faced with numerous alternative explanations for the results of studies conducted using

the model. In suggesting that leadership theories and models be developed by adapting leadership style within the context of the situation, Fielder's leadership model, theoretically accounts for observed differences in leadership effectiveness due to situational determinants, a point which Kabanoff claims could be explained by different means, such as the knowledge, skills, and abilities of group members. In situational leadership theory, leader effectiveness is thought to increase when leaders utilize a style that best matches the abilities of his or her subordinates (Chen & Silverthorne, 2005). Fiedler's model includes predictions based on the complexity and structure of the task and hypothesis are derived for the present research based upon these predictions.

Chapter II

BEHAVIOR, GROUP EFFECTIVENESS, AND TIME PRESSURE

"Tired of lying in the sunshine staying home to watch the rain.

You are young and life is long and there is time to kill today.

And then one day you find ten years have got behind you.

No one told you when to run, you missed the starting gun."

-Pink Floyd

An individual's ability to develop and execute a problem-solving strategy is acutely tied to the amount of time they are given (DeShon & Alexander, 1996). Durham et al. (2000) reported that group efficacy is negatively affected by perceptions of time pressure. Under time pressure, groups may respond to tasks in several ways; one possibility is in a group leader facilitating information processing in an attempt to offset the time constraints. DeShon and Alexander noted that when individuals engage in this type of behavior, they become more selective in terms of what information they process. Whether this type of behavior is linked to effective leadership remains unclear.

Type-A vs. Type-B Personality

In a study examining the differences between Type-A and Type-B individuals, Keinan and Koren (2002) found that groups consisting mostly of Type-A individuals are significantly more productive than groups primarily consisting of Type-B individuals; Type-A individuals were found to be more sensitive to time urgency. Typically, autocratic leaders tend to share certain characteristics with Type-A behavior patterns,

such as being directive and task-focused. These behavioral characteristics may make autocratic leaders more perceptive of deadlines and other time sensitive issues. On the other hand, Democratic leaders tend to share certain characteristics with Type-B personalities in that they may be perceived as more relaxed and may lack an overriding sense of time urgency. Nevertheless, time urgent behavior may be produced by an interaction with the environment, such as working with deadlines. As research suggested, those individuals who are categorized as Type-A are more likely to show signs of time urgent behavior, including such behaviors as competitiveness and aggressiveness under challenging conditions, such as task completion in a limited time frame (Burnam, Pennebaker, & Glass, 1975). The current study used four scenarios, two of which contained time urgent conditions under two different leadership styles. Indeed, the autocratic leader may exhibit Type-A behaviors while the democratic leader may exhibit more Type-B behaviors. Conte et al. (1995) reported that time urgency was indeed affected by certain external stimuli. For instance, a student is more likely to report higher levels of nervous energy, a symptom of time urgency, when multiple assignments are due within a week than a student who does not have assignments due within a week.

Efficacy and Effectiveness in Groups

Because work groups are being relied upon more and more, understanding what affects a group's efficacy will directly help organizations increase their effectiveness, which is usually attributed to the degree of the group's efficacy (Chemers, 2001). Research conducted in the last decade revealed that self-efficacy is predictive of job attitudes, performance, and training proficiency (Chen & Beliese, 2002). Pescosolido (2003) stated that group efficacy is simply the collective estimate of the members within

the group concerning the group's ability to perform a given task; building group efficacy is a promising method of increasing group performance. Reviews of the research literature (Pescocolido, 2003; Whiteoak et al., 2004) differentiate efficacy from general confidence; the former is task-specific and the latter is a general state. Thus, fluctuations in task difficulty are reflected in fluctuations in group efficacy.

Measuring Group Efficacy. Since group-efficacy evolved from Bandura's (1977) concept of self-efficacy, scholars have debated on how best to measure the construct (Gibson et al., 2000). Whiteoak, Chalip, and Hort (2004) assessed three methods of measuring group-efficacy in order to determine whether these approaches yield similar results: (a) aggregating each group member's self appraisal; (b) aggregating each group member's appraisal of the group; and (c) group consensus responses. Group efficacy from previous performance should predict group efficacy in the current situation; efficacy is thought to be stable and reliable over time. Measures assessing group efficacy should not yield significantly different reliability estimates over similar tasks nor within stages of the same task. Whiteoak et al. hypothesized that different reliability estimates suggests the measurements are not accurately measuring group efficacy. Along with reliability, validity is another differentiating measure needed for the criteria.

Whiteoak et al. (2004) stated two important validity issues: (1) group efficacy should vary with task difficulty and (2) the relationship between group efficacy and group performance should be such that when there is a higher level of efficacy there is a higher level of performance. For validity, three acceptable outcomes are possible: group efficacy can affect goals, have a direct effect on performance, or both. Any of these three outcomes is generally accepted to be theoretically sound and acceptable. The authors

suggested that the best measure for group efficacy will consist of five components: a) the efficacy is related across trials within a task; b) performance from a previous trial will have an effect; c) lower for difficult tasks and higher for easier tasks; d) predicts goals; and e) predicts performance.

Whiteoak et al. (2004) found that the measures do differentiate between task difficulty, meaning that each measure assessed has predictive validity in terms of task structure and meets the criteria for assessing group efficacy. Another important finding from Whiteoak et al. was there was not a significant interaction between the measures and the conditions for the task; none of the group efficacy measures discriminated task difficulty more so than others. This suggests that any of the three measures will produce similar results regardless of task structure. The conclusion was that any of the measurement methods may be utilized for measuring group efficacy because they behave in a similar manner. Due to the design of the experiment and the procedure, the current study will use the method where each individual's perception of group efficacy will be averaged. According to Whiteoak et al. aggregating group perceptions in this manner has increased in use within the last decade.

Temporal Issues Affecting Group Efficacy. One reason time pressure may be so prevalent could be the amount of social emphasis placed on the behavior. Society encourages time urgent behavior as a means to achieve success. However, the connection between successful complex decision-making and time pressure remains unclear. Streufert et al. (1981) found that groups made more integrated decisions when time pressure conditions were low or absent. That is, under time urgent conditions, groups were less likely to plan effectively for future events and outcomes. Indeed, the study

performed by Streufert et al. demonstrated the negative effects of time pressure on group decision-making.

Time, in and of itself, poses a difficult challenge to researching and studying group performance (Arrow, Poole, Henry, Wheelan, & Moreland, 2004). Groups experience systematic changes over time. However, change within a group is not necessarily random; processes within groups show patterns over time (Arrow et al., 2004). Typically, these patterns are expressed in three concepts: change, stability, and continuity. Over time, the manner in which the group interacts may change – possible effects from established temporal norms. A group's stability refers to those processes which affect or balance any external or internal forces which may have a transformative effect on the group. Arrow et al. refer to a group's maintenance of consistent patterns of performance as its continuity. Neri (2008) pointed toward group identity and each member's sense of belonging to affect continuity.

The ability to predict group performance under time urgent conditions and with different leadership styles is not accurate, because there is considerable neglect of time pressure in studies on group efficacy,. McGrath and Tschan (2007) discuss four time related issues that may affect group performance and efficacy, as well as have serious implications concerning what researchers actually know about group performance: Temporal Type I and Type II errors and group development.

Temporal Type I errors occur when an inference is made, based on a brief observation, concerning a phenomenon within a work group. That is to say that we conclude a phenomenon occurs within a work group because we observed the work group, albeit for only a brief time. Likewise, Temporal Type II errors occur when an

inference is made based on a brief observation of a non-occurrence of a phenomenon within a work group. For example, the performance of a group of students who are giving an in-class presentation may be hindered by a noisy maintenance crew working in the next room. In this case, the distraction from the maintenance workers was included in an assessment, but may not occur in future observations. Additionally, as members in a group gain experience working together, they may become more effective at distributing the group's resources and talents in order to accomplish a task. In other words, groups may perform better over time as they build more experience, something that may not be captured if observations were made during initial group development. According to McGrath and Tschan (2007) studies have shown that different results can be drawn from short- and long-term observations of work groups. These temporal errors occur because short observations do not account for the effect of a group's *temporal planning*. Such planning increases the work group's coordination, chances of successful outcome, and facilitates group norms (Janicik & Bartel, 2003).

Perceptions of Time Pressure

The most common time-urgent conditions placed upon groups are deadlines. Using an objective construction of time, people tend to view it as a resource (Arrow, Poole, Henry, Wheelan, & Moreland, 2004). Like other resources, group members must discuss how to use and spend their time in attaining their goals. Temporal planning, a concept explored by Janicik and Bartel (2003) is best utilized by work groups who are under a deadline and are to engage in a relatively complex task. Under these conditions, this type of planning allows members to establish what Janicik and Bartel call time

awareness norms; these norms quickly establish the group's pacing style, which affects how and when the group accomplishes a given task.

In terms of time urgency and individual behavioral effects on group performance, Waller, Giambatista, and Zeller-Bruhn (1998) and Waller et al. (2004) noted crucial areas current research has focused upon in terms of perceptions of time and group performance: individual time perception, effects of time perception on group pacing, and group pacing effects on group outcomes. Research on individual time perception has suggested that individuals who work under similar time constraints may exhibit different time-oriented behaviors from one another. However, Waller et al. (1998) also reported that current empirical research has yet to yield any definitive answers as to how individuals influence group pacing styles.

Waller et al. (1998) focused their study how individual time behaviors influenced group outcomes. The results found those individuals who exhibit time urgent behaviors may assist in helping to keep the group focused and on task. This finding allows us to view and discuss time and time pressure as a social construct. Waller et al. (2004) found when group members are under demanding deadlines, there are two specific temporal individual differences which affect perceptions of and reactions to time: how time-urgent an individual is and their time-perspective. An individual's perception of time, whether as part of the task or as a dwindling resource, impacts their pacing style which in turn affects group performance.

An individual’s perception of time pressure may influence the group’s perception, if the majority of the group is not composed of individuals with high senses of time urgency as well. One must note that one’s preconceptions of time urgency within a group

may become relative to other members with respect to their notions of time urgency. Waller et al. (1998) suggests that an individual with high perceptions of time urgency would have little to no effect on a group that is comprised mostly of individuals with similarly high levels of time urgency. If a leader was managing a group full of time sensitive individual's, then time-urgent behavior on part of the leader may not be necessary.

Gevers, Rutte, and van Eerde (2006) found that group perceptions of time urgency has the potential to either facilitate or impede the meeting of a deadline, depending on the pacing style of the group. Gevers et al. call perceptions of time urgency among group members *shared temporal cognitions* (STC). The study found that whether temporal cognitions facilitate or hinder groups in meeting their deadlines was contingent upon the group's mean pacing style. For example, when the group tended toward early action pacing styles, STC facilitated the group accomplishing their task. Conversely, when groups engage in a deadline action pacing style, STC tends to impair them in meeting their deadlines.

Although group pacing was found to be affected by certain time urgent behaviors, the leadership styles which a group may adopt have not been sufficiently studied empirically to warrant any claim as to which style would produce the best outcome under time urgent conditions. In short, the earlier a group begins work to meet a deadline, the more likely members will be on the same page in terms on task progress and expectations, and the group is more likely to meet their deadline. The study conducted by Gevers et al. was a longitudinal study on group performance, thus is not necessarily

subject to temporal Type I and Type II errors as described by McGrath and Tschan (2007).

Consequences of Time Pressure. Stress typically results from time pressure, and research has confirmed that an individual's reaction toward stressful stimuli yields a narrower perspective (Driskell, Salas, & Johnston, 1999). Driskell et al. conducted a study to determine the affects of stress on group performance. Prior research has confirmed that individuals tend to be more self-focused when exposed to stressful stimuli. Since group members directly affect group performance, we are warranted to suggest that when exposed to stress, groups' performance may decrease similarly to individual performance with respect to stress. As expected, Driskell et al. confirmed that stress undermines and deteriorates the group's perspective.

Although the finding on the effect of stress on team perspectives is not entirely surprising, the effect of team perspective in and of itself was surprising. Driskell et al. (1999) found that when team perspective was controlled for both stress and group member's interdependence, it failed to become predictors of group performance. However, there is one variable which could maintain team perspective under stressful conditions: leadership. Since a group's perspective on tasks cannot always be controlled for in the real world, understanding what type of leadership is best effective for a given situation should allow groups more focus under time constraints.

Groups may incorporate meeting a deadline as part of the task. This occurs in situations where a leader explains time constraints but the group may not allocate time and effort for discussing alternate solutions. Furthermore, because prior research suggests that stress increases task complexity (Driskell et al., 1999), stress should also

affect efficacy measurements. Given the current review of the research literature on models of leadership behavior and group efficacy, the following hypotheses were warranted: a) individuals in autocratically led groups will report higher levels of time-based efficacy than individuals in democratically lead groups when under time-urgent conditions (Burnam et al., 1975; Chen & Bliese, 2002; Driskell et al., 1999); b) individuals will report lower levels of general group efficacy under time urgent conditions compared to individuals who are not (Fiedler, 1978; Gully et al., 2002); c) individuals under autocratic leaders will report higher levels of general group efficacy when under time urgent conditions than individuals under democratic leaders while individuals in democratic led groups will report higher levels of general group efficacy than those in the autocratic leader condition when time urgency is not present (Deluga, 1990; Chemers, 2002; Chen & Bliese, 2002).

Chapter III

METHOD

Participants

Undergraduate students from introductory psychology and English classes as well as one upper level psychology class at a medium sized southeastern university were recruited to participate. Based on previous research (Shaw & Blum, 1966), the current study used a power of .80. Expecting a medium effect size, data were collected from 98 students. The participant sample was 72% female and had a mean age of 23.63 (SD = 5.34) years old. Three students declined to participate and data from three other students were excluded because some or all responses were left blank. Students were asked in class whether they wanted to participate in a study assessing the effects of time and leadership on perceived group performance. Each participant was handed a packet containing a demographics sheet, LPC measure, leader style measure, a reading scenario, a general measure of group efficacy scale, and a time-based measure of group efficacy scale.

Research Design

A two 2 (leadership style) x 2 (time pressure) within subjects factoral design was utilized to test both general and time-based group efficacy. The design also called for a multiple regression model in order to used group member's leader style to predict efficacy outcomes.

Materials

General group efficacy and time-based efficacy scales adapted from Gibson et al. (2000), an LPC measure (See Appendix G), and a measure assessing leadership style (See Appendix F) (Northouse, 2001) were used. The efficacy scales estimated participant's general and time-based efficacy by asking individuals to assume ratings for their effectiveness based on how an outside observer would rate their performance (see Appendixes H and I). Four passages (see Appendix A, B, C, and D), developed by an instructor in the university's English department, were used with approximately the same number of words to simulate the task. All passages depicted the same organizational meeting with the exceptions of the independent variables being manipulated.

Procedure

A convenient sample method was used in the recruitment of participants. The researcher visited five classrooms and explained to the students, should they choose to participate, that they would be given a short reading scenario and then asked to complete a few short assessments regarding how effective they thought the group was under the given circumstances. If students chose to participate, they were handed an informed consent form (see Appendix J) and a packet containing the measurement scales and a reading scenario. If a student did not want to participate, no attempt was made to persuade them otherwise. After the students completed the assessments, the researcher revealed that the true purpose of the study was to look at differences in perceived group performance due to time pressure and leadership, as described in the scenarios. An exemption for human subjects research was approved by Valdosta State University's Institutional Review Board (IRB) (see Appendix K)

Leader style. The current study used the leadership behavioral styles identified by the Ohio State and Michigan University studies (Northouse, 2001) as models for leadership behavior in the experimental design. Based on previous leadership research (Larsson & Vinberg, 2010), two behavioral types of leadership, factor analysis has consistently identified task- and relationship-oriented as the two dominant leader styles. The autocratic leaders maintained behaviors which are more compliant with organizing and maintaining task-structure. Little to no importance was given by the autocratic leader in building or fostering relationship with group members. Previous research and analysis on the Fiedler's contingency model (1971) suggest that leadership which initiates structure is more effective for unseasoned employees (Northouse, 2001). Conversely, democratic leaders maintained behaviors more compliant with openness to experience and establishing rapport with group members.

Time Pressure. The second independent variable, time urgency, was manipulated by placing a 20 minute deadline on the time urgent condition while the non-time urgent condition operated under no time constraints. Since a sense of time urgency causes stress in individuals, a short amount of time was given to participants in order to make the time urgency a more salient factor.

Dependent Measures. The current study sought to determine the effects of leader style and time urgency on group efficacy. Additionally, measures of participant leader style where taken in order to predict efficacy outcomes as well, but are not hypothesized within the current study. Two types of efficacy were measured, general and time-based. General group efficacy was an overall assessment of how each member thought the group performed on their given task, whereas time-based efficacy was an individual measure of

how well a group performed a task under time constraints. Both measures were calculated by aggregating participants' ratings on corresponding efficacy scales adapted from Gibson et al. (2000).

Chapter IV

RESULTS

An alpha level of .05 was used to test for statistical significance. The effect sized was calculated as *r*.

Perceived Group Efficacy Ratings

A 2 (leadership style) x 2 (time pressure) analysis of variance (ANOVA) was calculated on individual ratings of perceived general group efficacy. There was a significant main effect for time urgency, $F(1, 91) = 5.19$, $p = 0.020$ ($r = .22$). Individuals who read scenarios that did not demonstrate time-urgent conditions reported higher levels of general group efficacy ($M = 3.81$, $SD = 1.09$) compared to individuals who read scenarios that did demonstrate time-urgent conditions ($M = 3.29$, $SD = 1.24$). There was no significant main effect for leadership style, $F(1, 91) = 0.81$, $p = 0.370$ ($r < .00$). There was no significant interaction between Leadership Style and Time-Urgency, $F(1, 91) = 1.22$, $p = 0.27$ ($r < .00$)

Time-Based Efficacy Ratings

A 2 (leadership style) x 2(time-pressure) ANOVA was calculated on group member ratings of time-based efficacy. There was a significant main effect for leadership style, $F(1, 91) = 7.90$, $p < .001$ ($r = .28$). Those individuals who read a scenario depicting an autocratic leader reported higher levels of time-based efficacy ($M = 2.97$, $SD = 1.28$) compared to those individuals who read a scenario depicting a democratic leader

($M = 2.23$, $SD = 1.19$). The main effect for time-urgency approached significance, $F(1, 91) = 2.36$, $p = .120$ ($r = .03$). There was no significant interaction for Leadership Style and Time-Urgency, $F(1, 91) = 0.05$, $p = .83$ ($r < .00$).

Correlation and multiple regression analyses were conducted to examine the relationship between a group's time-based efficacy and potential predictors (see Table 1). Only general group efficacy significantly contributed to the model, indicating that groups with higher efficacy on specific tasks tend to perform better when that task is made more complex or difficult because of time constraints. The multiple regression model with all three predictors did yield statistical significance: $R^2 = .104$, $F(3, 87) = 3.379$, $p = .022$.

Table 1

Mean Scores and, Standard Deviations of General and Time-Based Efficacy (TBE) and Least Preferred Coworker Scores, Correlations with TBE, and Regression Weights

				Multiple Regression Weights	
Variable	Mean	SD	Correlation with Time-Based Efficacy	b	β
Time-Based Efficacy	2.56	1.28			
General Group Efficacy	3.56	1.19	.290**	.307	.286
Relationship	40.47	4.89	.113	.023	.088
Task	37.16	5.25	.162	.021	.085

Chapter V

DISCUSSION

The results of the current study on group efficacy suggest that time pressure decreases general group efficacy. This decrease in general group efficacy is most likely due to time pressure increasing the task's complexity. However, whether groups view time pressure as part of the overall task or an external hindrance remains unclear.

The current study did confirm the relationship between general group efficacy and time-based efficacy as reported by Gibson et al. (2000). According to the multiple regression model, general group efficacy was the only significant predictor of time-based efficacy. The amount of time allocated to tasks influences its perceived difficulty. A task will have the same components regardless of whether time-urgent conditions are present, but completing the task within a given time limit itself may be contingent upon group members' relations, experience, and knowledge.

To increase the rate of task completion or to meet specific deadlines, individuals may increase information processing (DeShon & Alexander, 2000), decrease exploration of alternative options (Janis, 1983), or become more compliant with a leader's decision. For example, groups comprising of Type-A individuals were previously found to be more productive than groups comprising of Type-B individuals (Keinan & Koren, 2002). Although Type-B individuals are not inherently less competent than their Type-A counterparts, a possible lack of motivation or lack of time-urgent feelings by these group members may be remedied by the command of an autocratic leader because such as

leader exhibits more Type-A personality behaviors than non-autocratic leaders. The findings of the current study imply that autocratic leader behavior may increase the effectiveness or performance of groups comprised of Type-B individuals.

By not questioning an autocratic leader's decision, group members may become more sensitive to time pressure. Group perceptions of time pressure and their pacing style will affect how their deadlines are met (Gevers et al.,2006). Findings from the current study imply that leadership style effects group pacing style. A leader's style will affect a group's time-based efficacy and determine how receptive the group is to exploring alternative options. Although the current study did not directly examine the effects of leadership styles on groups' pacing style, analysis of time-based efficacy suggests that such a relationship may exist. Further research is needed to fully understand the relationship. Analysis of the interaction between leadership style and a group's time-based efficacy shed some light on how groups may view time pressure, deadlines, and other time constraints. In the time-urgent conditions, individuals reported higher levels of time-based efficacy when the group leader was autocratic. This may indicate that when time constraints become part of the tasks themselves, autocratic leadership styles are more likely to raise the group's efficacy in facing those types of tasks. The presence of time urgency itself changes the contingency octants, or dimensions, with which the leader and group are working. For example, the non time-urgent conditions outlined in the experiment detail a low-structure task, whereas time-urgent conditions inherently make the task high structured.

The results supported the first hypothesis, which predicted individuals who read the scenario depicting time-urgent conditions and operating under an autocratic leader to

report the higher levels of time-based efficacy than individuals operating under a democratic leader; the data revealed higher levels of time-based efficacy reported by individuals under the autocratic leader in a situation of time urgency. According to Shaw and Blum (1966) and Fiedler (1978), high task structures call for directive leadership, which the current study operationalized as autocratic. Time constraints are found to increase the difficulty of tasks themselves; leadership styles which are more autocratic and directive facilitate the group in accomplishing their goals under those temporal conditions. Additionally, when the task structure changes, or an unexpected element is revealed, an autocratic leader may decrease some of the anxiety and stress group members may feel. That is, when group members must deal with time sensitive tasks, they may turn to an autocratic leader for initial direction. Indeed, contingency theory predicts directive leaders tend to be most effective when task structure is high. Northouse (2001) points out a task is considered highly structured when there are few alternatives. Driskell et al. (1999) found that a common reaction to time pressure is stress. Brophy (2006) found stress and anxiety to negatively affect overall group performance. Future research is needed to determine any interactions between leader style, anxiety, and group performance. Findings from the current study imply group feelings of time-urgency, as measured by time-based efficacy, are handled more effectively by autocratic leadership.

The second hypothesis was supported as well. The data revealed that individuals reported lower levels of general group efficacy under time urgent conditions compared to individuals who are not affected by time constraints. Given that a task becomes increasingly easier when more resources are available, the opposite must hold true (e.g., less and less resources increases task difficult). According to Arrow et al. (2004), time,

when viewed as a resource, will have a direct effect on how time urgency and deadlines alter how tasks are perceived in terms of complexity.

Although some individuals and groups may be quite proficient concerning certain tasks, having to complete that task in a limited amount of time affects how challenging it truly is. In this sense, time is a resource utilized in accomplishing the task. According to Driskell et al. (1999), stress within a group deteriorates perspective, which can influence how a group approaches tasks. Even though group members may be competent in meeting the requirements of a task (i.e., the group, overall, is effective) excess stress from time-pressure seems to decrease their overall performance on the task (i.e. the group's efficacy). Additionally, this study confirmed the finding of Streufert et al. (1981) in which groups typically made better decisions when time pressure was low or absent. Streufert et al. reported that time pressure hindered a group's ability to make successful future plans. Analysis from this study and others (i.e., Driskell et al., 1999; Streufert et al., 1981) confirms that higher levels of time pressure undermine a groups' task-specific performance.

Contrary to prediction the third analyses did not find an effect on general group efficacy from leadership style in either the presence or absence of time pressure. One possibility could be leadership style mediates environmental stress (e.g., time pressure). Group members may only be indirectly affected by environment constraints. Findings from the current study do not necessarily support Kabanoff 's (1981) conclusions on Leadership-Match theory, which suggests alternative explanations for successful group performance (such as member competence and shared temporal cognitions). Not specifying leader-member relations is another possibility for the current study's failure to

confirm hypothesis three. According to Fiedler's contingency model (1971), directive leaders tend to be effective when leader-member relations are poor and task structure is high, while relationship-oriented leaders tend to be more effective when leader-members relations are good, regardless of task structure. There is still debate over the effect of leader behaviors on group performance and more work needs to be done to arrive at a complete and concise theoretical framework.

In a study on group leadership styles and group effectiveness, Sosik et al.(1997) found that leadership styles affect the group's effectiveness as well as the group's beliefs about their effectiveness for a given task (i.e., their efficacy). Duemer et al. (2004) reported the following as effective leadership characteristics: interpersonal skills, group management, time management, and expertise. Within time urgent scenarios, group and time management skills become more pertinent to overall group success. Directive leaders who are able to meet the changing demands which they and their groups will face will fair better when tasks become increasingly complex due to stress and time pressure.

Limitations

Although the current study underlines specific environmental and behavioral effects on group efficacy, contingency theory and style approaches do not account for the knowledge and skills of leaders and and group members (Kilburg & Donohue, 2011). Furthermore, the current study is limited by temporal Type I and Type II errors (McGrath & Tschan, 2007). Groups with more experience working under time pressure may not be as adversely affected as groups with little to no such experience. Thus, the findings of the current study should not be generalized to work groups with experience in time-urgency environments. However, situations do arise where certain leadership styles may

be more effective than others, and a group's experience is not necessarily a substitute for effective leadership.

Due to the current study's design, participants did not actually engage in a group activity, which severely limits member input on group processes. The current study also was confronted with problem of mundane versus experimental realism. The current study assumed that the participants understood their role in the group during the experiment. However, actual role playing may stimulate member-leader interactions on deeper cognitive and social levels, and assessments of leader-member relations could be made. The current study also did not account for leader-member relations, though the reading scenarios did not depict poor leader-member relations. Future research should examine the effects these interactions have on overall group efficacy and the extent to which time urgency affects that relationship.

The contingency model predicts relationships between group performance and a leader's LPC score. Prior research already established and confirmed the contingency model's predictions regarding leader style (e.g., Fiedler, 1971; Northouse, 2001; Rice et al., 1982), the current study did not test those predictions. Though leader styles are controlled for within the study, a reading-scenario stylization makes assumptions as to how a task-oriented or relationship-oriented leader would act within a situation.

The greatest limitation presented to the current study is that actual group tasks were replaced with brief summaries. Although the task scenarios accounted for much of the variation that is possible when organizing an actual group-task, there is something missing from the experience of *doing* compared to *reading*. Additionally, not all octants the contingency model describes were accounted for within this experiment. Though I

predicted that time pressure would increase task complexity, there still remains some ambiguity in exactly how time pressure affects impacts the interactions of leader-member relations, task structure, and position of power.

Future Research

Additional research may be needed to clarify how time pressure affects group performance in all octants of the contingency model. When a leader has a low position of power, the impact of time urgency on group performance and perceptions of efficacy remain unclear as does its impact on leader-member relations. Also of note are whether there is an interaction between time pressure and the situational variables mentioned by Rice et al. (1982).

Future research may also need to explore how speed affects successful group performance as there may be motivation for some individuals to work faster to meet deadlines. The findings of the current study imply that autocratic leader behavior may increase the effectiveness or performance of groups comprised of Type-B individuals. Where such a group stands compared to Type-A groups may be a topic for future research. Regarding temporal Type-II error, as a group is exposed to working under time urgent conditions, their experience would presumable increase their perceptions of group efficacy.

Summary Statement

There has been relatively little research on the effect of time urgency and leader style on group performance (Durham et al., 2000; Kleij, et al., 2006; McGrath & Tschan, 2007; Waller et al, 2001). Despite the limitations of the current study, the results suggest that time urgency inherently increases the complexity of a task. Directive, autocratic

leaders tended to yield higher reports of group time-based efficacy, revealing that when pressed for time and resources, people prefer a leader who is more direct and results driven. Since general group efficacy predicts time-based efficacy, factors other than leadership may help in improving group performance under time urgency, such as training and on the job experience. However, as organizations continue to grow, talent management teams will always need effective methods of identifying effective leaders.

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Appendix A: Autocratic Leadership and Time-Urgent Condition

You work at Acme Industries, a company that makes and sells hurricane-proof windows for beach houses. Due to the recession, the demand for your company's product has severely decreased. Your manager, Ted Hastings, has formed a problem-solving group with six members. Ted selects Karen Molly, a manager in your division, as the team leader, and Karen sets up a meeting with all of the members of the work group in one of the company's conference rooms.

At the meeting, Karen introduces herself as the team leader and directs the other members to introduce themselves. After a brief introduction by each member, Karen explains that this meeting cannot last more than twenty minutes due to a scheduling mistake by another work group. Karen states, "I'm confident that we can pull something together in twenty minutes, but we have to get to work. Since we're short on time, everyone should work on an advertising pitch for the next ten minutes. The best way to sell a product is to effectively advertise it, after all."

Immediately, the members of the group begin to work on advertising campaigns. Before everyone has fully settled into the task, however, Jennifer Scully, the team member sitting next to you, poses a question: "I know that advertising is important, but I think we also need to look at ways we could cut production costs. Can three of us discuss ways we could cut back on spending while the other three brainstorm advertising pitches?"

"We don't have time to consider both cost and advertising at this meeting," Karen answers after a momentary pause, "Since we only have twenty minutes to work, we need to focus on what's most important to the company's image, which is advertising." The group settles back down to work. After ten minutes, Karen tells the group members to finish up and get ready to present their information to the group. Karen says, "Normally, the group leader might take a group vote to decide which option is best, but under the present time constraint, I would rather just have you read your advertising pitches aloud, after which I, as group leader, will choose the idea most likely to appeal to upper management."

After each group member presents his or her advertising pitch, Karen selects one and declares the meeting a success. She thanks the members for their hard work and ends the meeting.

Appendix B: Autocratic Leadership and Non Time-Urgent Condition

You work at Acme Industries, a company that makes and sells hurricane-proof windows for beach houses. Due to the recession, the demand for your company's product has severely decreased. Your manager, Ted Hastings, has formed a problem-solving group with six members. Ted selects Karen Molly, a manager in your division, as the team leader, and Karen sets up a meeting with all of the members of the work group in one of the company's conference rooms.

At the meeting, Karen introduces herself as the team leader and directs the other members to introduce themselves. After a brief introduction by each member, Karen states, "I'm confident that we can pull something together, but we have to get to work. I think everyone should work on an advertising pitch for the next ten minutes. The best way to sell a product is to effectively advertise it, after all."

Immediately, the members of the group begin to work on advertising campaigns. Before everyone has fully settled into the task, however, Jennifer Scully, the team member sitting next to you, poses a question: "I know that advertising is important, but I think we also need to look at ways we could cut production costs. Can three of us discuss ways we could cut back on spending while the other three brainstorm advertising pitches?"

"I don't think we should divide our attention on both cost and advertising during the meeting," Karen answers after a momentary pause, "we need to focus on what's most important to the company's image, which is advertising." The group settles back down to work. After a while, Karen tells the group members to finish up and get ready to present their information to the group. Karen says, "Normally, the group leader might take a group vote to decide which option is best, but under the present time constraint, I would rather just have you read your advertising pitches aloud, after which I, as group leader, will choose the idea most likely to appeal to upper management."

After each group member presents his or her advertising pitch, Karen selects one and declares the meeting a success. She thanks the members for their hard work and ends the meeting.

Appendix C: Democratic Leadership and Time-Urgent Condition

You work at Acme Industries, a company that makes and sells hurricane-proof windows for beach houses. Due to the recession, the demand for your company's product has severely decreased. Your manager, Ted Hastings, has formed a problem-solving group with six members. Ted selected Karen Molly, a manager in your division, as the team leader, and Karen set up a meeting with all of the members of the work group in one of the company's conference rooms.

At the meeting, Karen introduces herself as the team leader and encourages the other members to introduce themselves. After a brief introduction by each member, Karen explains that this meeting cannot last more than twenty minutes due to a scheduling mistake by another work group. Karen states, "I'm confident that we can pull something together in twenty minutes, but we will need to work together and consider all of the options. If two heads are better than one, six heads should make finding solutions easy. Since we're short on time, what does everyone think about working on advertising campaigns for the first ten minutes?"

Several of the group members verbally agree to Karen's suggestion. However, Jennifer Scully, the team member sitting next to you, poses a question: "I know that advertising is important, but I think we also need to look at ways we could cut production costs. Can three of us discuss ways we could cut back on spending while the other three brainstorm advertising pitches?"

"I think that's a great idea," Karen answers after a momentary pause, "Since we only have twenty minutes to work, working on different ideas will give us more options to consider at the end of the meeting." The group settles down to work. After ten minutes, Karen asks group members if they are almost finished and points out that they don't have much time left. Karen says, "Even if we don't have a lot of time left, I still want each idea to be thoroughly presented so we can take a vote at the end of the presentations to decide the best option for the company. Can anyone think of a better way than a vote to decide?"

After two minutes of discussion, the group members decide that a vote would be the fairest way to select the best idea. After each group member presents his or her idea, the members of the group vote to confirm the idea they will present to upper management. Karen declares the meeting a success, thanks the members for their hard work, and ends the meeting.

Appendix D: Democratic Leadership and Non Time-Urgent Condition

You work at Acme Industries, a company that makes and sells hurricane-proof windows for beach houses. Due to the recession, the demand for your company's product has severely decreased. Your manager, Ted Hastings, has formed a problem-solving group with six members. Ted selected Karen Molly, a manager in your division, as the team leader, and Karen set up a meeting with all of the members of the work group in one of the company's conference rooms.

At the meeting, Karen introduces herself as the team leader and encourages the other members to introduce themselves. After a brief introduction by each member, Karen explains that the meeting should provide enough time to hear input from each group member and consider the best ideas. Karen states, "I'm confident that we can pull something together by the end of the meeting, but we should work together and consider all of the options. If two heads are better than one, six heads should make finding solutions easy. What does everyone think about working on advertising campaigns for the first ten minutes?"

Several of the group members verbally agree to Karen's suggestion. However, Jennifer Scully, the team member sitting next to you, poses a question: "I know that advertising is important, but I think we also need to look at ways we could cut production costs. Can three of us discuss ways we could cut back on spending while the other three brainstorm advertising pitches?"

"I think that's a great idea," Karen answers after a momentary pause, " and working on different ideas will give us more options to consider and we'll be able to look at them comparatively at the end of the meeting." The groups settle down to work. After a while, Karen asks group members if they are almost finished and if they have any questions. Karen says, "Since we have plenty of time, I want each idea to be thoroughly presented so we can take a vote at the end of the presentations to decide the best option for the company. Can anyone think of a better way than a vote to decide?"

After a moment or two of discussion, the group members decide that a vote would be the fairest way to select the best idea. After each group member presents his or her idea, the members of the group vote to confirm the idea they will present to upper management. Karen declares the meeting a success, thanks the members for their hard work, and ends the meeting.

Appendix E: Demographics Form

DEMOGRAPHICS FORM

FORM NUMBER_____

Age

What is your age? _____

Sex

What is your sex?

- Male
- Female

Race/ethnicity

How do you describe yourself? (please check the one option that best describes you)

- American Indian or Alaska Native
- Hawaiian or Other Pacific Islander
- Asian or Asian American
- Black or African American
- Hispanic or Latino
- Non-Hispanic White

Appendix F: Style Questionnaire

ISTRUCTIONS: Read each item carefully and think about how often you engage in the described behavior. Indicate your response to each item by circling one of the five numbers to the right of each item.

Key: 1 = Never 2 = Seldom 3 = Occasionally 4= Often 5 = Always

o	Tells group members what they are supposed to	1	2	3	4	5
o	Acts friendly with members of the group.	1	2	3	4	5
o	Sets standards of performance for group membe	1	2	3	4	5
o	Helps others feel comfortable in the group.	1	2	3	4	5
o	Makes suggestions about how to solve problems	1	2	3	4	5
o	Responds favorable to suggestions made by othe	1	2	3	4	5
o	Make your perspective clear to others.	1	2	3	4	5
o	Treats others fairly.	1	2	3	4	5
o	Develops a plan of action for the group.	1	2	3	4	5
o	Behaves in a predictable manner toward group r	1	2	3	4	5
o	Defines role responsibilities for each group men	1	2	3	4	5
o	Communicates actively with group members.	1	2	3	4	5
o	Clarify your role within the group.	1	2	3	4	5
o	Shows concern for the personal well-being of ot	1	2	3	4	5
o	Provides a plan for how the work is to be done.	1	2	3	4	5
o	Shows flexibility in making decisions.	1	2	3	4	5
o	Provides criteria for what is expected of the grou	1	2	3	4	5
o	Discloses thoughts and feelings to group membe	1	2	3	4	5
o	Encourages group members to do quality work.	1	2	3	4	5
o	Helps group members get along.	1	2	3	4	5

Appendix G: Least Preferred Coworker Scale

Least Preferred Coworker (LPC) Measure

INTRSRUCTIONS: Think of the person with whom you can work the least well. He or she may be someone you work with now or someone you knew in the past. He or she does not have to be the person you like least well, but should be the person with whom you had the most difficulty in getting a job done. Describe this person as he or she appears to you.

			Scoring
Pleasant	8 7 6 5 4 3 2 1	Unpleasant	_____
Friendly	8 7 6 5 4 3 2 1	Unfriendly	_____
Rejecting	1 2 3 4 5 6 7 8	Accepting	_____
Tense	1 2 3 4 5 6 7 8	Relaxed	_____
Distant	1 2 3 4 5 6 7 8	Close	_____
Cold	1 2 3 4 5 6 7 8	Warm	_____
Supportive	8 7 6 5 4 3 2 1	Hostile	_____
Boring	1 2 3 4 5 6 7 8	Interesting	_____
Quarrelsome	1 2 3 4 5 6 7 8	Harmonious	_____
Gloomy	1 2 3 4 5 6 7 8	Cheerful	_____
Open	8 7 6 5 4 3 2 1	Closed	_____
Backbiting	1 2 3 4 5 6 7 8	Loyal	_____
Untrustworthy	1 2 3 4 5 6 7 8	Trustworthy	_____
Considerate	8 7 6 5 4 3 2 1	Inconsiderate	_____
Nasty	1 2 3 4 5 6 7 8	Nice	_____
Agreeable	8 7 6 5 4 3 2 1	Disagreeable	_____
Insincere	1 2 3 4 5 6 7 8	Sincere	_____
Kind	1 2 3 4 5 6 7 8	Unkind	_____

Appendix H: General Group Efficacy Measure

DISCUSSION MEASURE OF
GENERAL GROUP EFFICACY

FORM NUMBER _____

Your group's effectiveness during the meeting discussed in the reading scenario was being observed and will be rated on a ten-point scale. The scale is defined below:

1 = *Very ineffective*; no clear solution will result from the group discussions
5 = *Average effectiveness*; collaboration on some issues and disagreements on others
10 = *Very effective*; mutually share consensus as to an appropriate solution

When the researcher tells you to begin, try to estimate whether the group will be able to achieve each level of effectiveness.

Please indicate in column A how certain you are that the group can achieve each level of effectiveness. For example, 0% means that the group cannot achieve that level, 50% means that the group may or may not achieve at least that level, and 100% means that the group is certain that is can achieve at least that level of effectiveness. In addition, in column B, please indicate "Y" for yes and "N" for no for whether the group can achieve at least this level of effectiveness.

	COLUMN A (0to 100%) CERTAINTY	COLUMN B Y = YES N = NO
Our group will receive a rating of 9-10 for general effectiveness.		
Our group will receive a rating of 7-8 for general effectiveness.		
Our group will receive a rating of 5-6 for general effectiveness.		
Our group will receive a rating of 3-4 for general effectiveness.		
Our group will receive a rating of 1-2 for general effectiveness.		

Appendix I: Time-Based Efficacy Measure

TIME-BASED GROUP EFFICACY

FORM NUMBER_____

We are interested in the group member's expectations of how long they think it may take to complete the meeting's goals effectively. When the instructor tells you to begin, try to estimate how the group will need to reach a decision during the meeting.

Please indicate in column A how certain you are that the group can reach a decision in the specified number of minutes. For example, 0% means that the group cannot reach a decision in that number of minutes, 50% means that the group may or may not reach a decision in at least that number of minutes, and 100% means that the group is certain that it can reach a decision in at least that number of minutes. In addition, in column B please indicate "Y" for yes or "N" for no for whether the group can reach a decision in that number of minutes.

	COLUMN A (0to 100%) CERTAINTY	COLUMN B Y = YES N = NO
20-29 minutes will be needed to complete the meeting's goals.		
30-49 minutes will be needed to complete the meeting's goals.		
50-79 minutes will be needed to complete the meeting's goals.		
80-99 minutes will be needed to complete the meeting's goals.		
99-120 minutes will be needed to complete the meeting's goals.		

Appendix J: Informed Consent Form

VALDOSTA STATE UNIVERSITY

Consent to Participate in Research

You are being asked to participate in a research project entitled "An Analysis of Autocratic and Democratic Leadership Styles in the Contingency Model: Time Urgency as a Mediating Variable in Group Efficacy." This research project is being conducted by Jay Gordon, a graduate student in Industrial and Organizational Psychology at Valdosta State University. The researcher has explained to you in detail the purpose of the project, the procedures to be used, and the potential benefits and possible risks of participation. You may ask the researcher any questions you have to help you understand this project and your possible participation in it. A basic explanation of the research is given below. Please read this carefully and discuss with the researcher any questions you may have. The University asks that you give your signed agreement if you wish to participate in this research project.

Purpose of the Research: This study involves research. The purpose of the study is *to examine group efficacy, performance, and decision making.*

Procedures:
You will be assigned to groups, given a short demographics sheet to complete, and a scenario to read. After you read the scenario you will be asked to participate in a leader-based group discussion about alternatives dealing with the scenario. After the group discussion, you will be given a group efficacy scale to complete. There are no alternatives to the experimental procedures in this study. The only alternative is to choose not to participate at all. There are some details about the study that you are not being told in advance. When your participation is over, the study will be explained to you in full detail, and all of your questions will be answered. At that time, you can decide whether or not you want your information to be used in the study.

Possible Risks or Discomfort: Although there are no known risks associated with these research procedures, it is not always possible to identify all potential risks of participating in a research study. However, the University has taken reasonable safeguards to minimize potential but unknown risks.

If you experience psychological distress as a result of your participation in this study, please contact Jay Gordon at (706) 957-1801. Neither the researcher nor Valdosta State University has made special provision for services required to treat any injury or psychological distress that results from participation in this research study beyond those normally provided to VSU students. By agreeing to participate in this research project, you are not waiving any rights that you may have against Valdosta State University for injury resulting from negligence of the University or its researchers.

Potential Benefits: Although you may not benefit directly from this research, your participation will help the researcher gain additional understanding of Leadership Theory and Group Efficacy. Knowledge gained may contribute to addressing training and development in public/private or-

ganizations and government and military institutions where leadership affects group decision making.

Costs and Compensation: There are no costs to you and there is no compensation (no money, gifts, or services) for your participation in this research project.

Assurance of Confidentiality: Valdosta State University and the researcher will keep your information confidential to the extent allowed by law. Members of the Institutional Review Board (IRB), a university committee charged with reviewing research to ensure the rights and welfare of research participants, may be given access to your confidential information. The information collected is anonymous. No one, including the researcher, will be able to associate your responses with your identity. All data you submit to the researcher will not include any personal identifiable information, and you will not be asked to identify your information in the future.

Voluntary Participation: Your decision to participate in this research project is entirely voluntary. If you agree now to participate and change your mind later, you are free to leave the study. Your decision not to participate at all or to stop participating at any time in the future will not have any effect on any rights you have or any services you are otherwise entitled to from Valdosta State University. A decision not to participate will not affect your grades. At the end of the experiment and when the research has finally been explained, you may choose whether your data will be included in the study.

Information Contacts:

Questions regarding the purpose or procedures of the research should be directed to Jay Gordon at (706) 957-1801 or gtgordon@valdosta.edu. This study has been approved by the Valdosta State University Institutional Review Board (IRB) for the Protection of Human Research Participants. The IRB, a university committee established by Federal law, is responsible for protecting the rights and welfare of research participants. If you have concerns or questions about your rights as a research participant, you may contact the IRB Administrator at 229-333-7837 or irb@valdosta.edu.

Agreement to Participate: The research project and my role in it have been explained to me, and my questions have been answered to my satisfaction. I agree to participate in this study. By signing this form, I am indicating that I am 18 years of age or older. I have received a copy of this consent form.

I would like to receive a copy of the results of this study: _____ Yes _____ No

Mailing Address: _____

e-mail Address: _____

_____
Printed Name of Participant

_____
Signature of Participant Date

_____
Signature of Person Obtaining Consent Date

This research project has been approved by the Valdosta State University Institutional Review Boa for the Protection of Human Research Participants through the date noted below:

Appendix K: IRB Exemption Form

Institutional Review Board (IRB)
for the Protection of Human Research Participants

NEW PROTOCOL REVIEW REPORT

PROTOCOL NUMBER: IRB-02383-2009 **INVESTIGATOR:** Gerard Gordon

PROJECT TITLE: An Analysis of Autocratic and Democratic Leadership Styles Using The Contingency Model

APPROVAL DATE: April 3, 2009 **EXPIRATION DATE:** April 2, 2010

LEVEL OF RISK:

☑ Minimal
☐ More than Minimal

TYPE OF REVIEW:

☑ Expedited (Category 7)
☐ Convened (Full Board)

DETERMINATION:

☑ This research protocol is approved. If you are using an informed consent form, you will receive a copy of the form, which bears an IRB approval stamp, in the mail in the next few days**. Please use this stamped consent form as the master** when making copies for use with participants. Once you receive the stamped consent form, you may begin your research project. **Please also see Attachment 1 for additional important information for researchers.**

☐ The approval of this protocol is pending. You may **not** begin your research until you have addressed the following concerns/questions and the IRB has formally notified you of approval. You may send your responses to irb@valdosta.edu.

Rich Vodde 5/21/12

Rich Vodde, IRB Chair Date

Thank you for submitting an IRB application.

Please direct questions to irb@valdosta.edu or 229-259-5045.

cc: Dr. Robert Bauer (Dept. Head)
Dr. Mark Whatley (Advisor)

Form Revised:

NEW PROTOCOL REVIEW REPORT
Attachment 1

ADDITIONAL INFORMATION FOR RESEARCHERS:

Expedited reviews are completed by a two-member team, or, in extraordinary circumstances, the Chair or the Vice-Chair. Although the expediters may approve protocols, they are required by federal regulation to report expedited approvals at the next IRB meeting. At that time, other IRB members may express any concerns and may occasionally request minor modifications to the protocol. In rare instances, the IRB may request that research activities involving participants be halted until such modifications are implemented. Should this situation arise, you will receive an explanatory communiqué from the IRB.

Protocol approvals are generally valid for one year. (In rare instances, when a protocol is determined to place participants at more than minimal risk, the IRB may shorten the approval period so that protocols are reviewed more frequently, allowing the IRB to reassess the potential risks and benefits to participants.) You will be contacted no less than two months before the expiration date noted on the preceding page. At that time, you will be asked to either submit a final report if the research is concluded or to apply for a continuation of approval. It is your responsibility to submit a continuation request in sufficient time for IRB review before the expiration date. If you do not secure a protocol approval extension prior to the expiration date, you must stop all activities involving participants (including interaction, intervention, data collection, and data analysis) until approval is reinstated.

Please be reminded that you are required to seek approval of the IRB before amending or altering the scope of the project or the research protocol or implementing changes in the approved consent form. You are also required to report to the IRB, through the Office of Grants & Contracts, any unanticipated problems or adverse events which become apparent during the course or as a result of the research and the actions you have taken.

Please refer to the IRB website (www.valdosta.edu/grants/IRB) for additional information about Valdosta State University's human protection program and your responsibilities as a researcher.