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EMBEDDED LEADERSHIP: HOW DO YOU LEAD A LEADER?

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Abstract

The current study uses a low fidelity simulation to test the effect a supervisor can influence the leadership style of his or her subordinates (i.e., embedded leaders). Using a sample of 236 undergraduates three variables were manipulated: high and low severity of individual level consequences, high and low severity of organizational consequences, and the supervisors motivational strategy (a coercive, a supportive, and a passive style). Overall, the study suggests that the leadership style an embedded leader (e.g., middle manager) uses is influenced by their superior's leadership style. It was found that effects of one level of leadership on another can be quite complex, in contrast to previous explanations that leaders either model or alternate leadership styles in response to their leader's approach.

Key words: leadership, embedded leadership, leader follower relationships, leader sensemaking, followership, coercive leadership, supportive leadership, middle management

Embedded Leadership: How Do You Lead a Leader?

Leadership occurs at multiple levels within organizations. Of course the most visible leaders are those who occupy the highest positions within organizations. However, it is important to consider leaders who occupy middle or lower level positions as well. In fact, it can be argued that the majority of leadership that occurs within an organization occurs at the lower and middle levels. For example, middle level leaders work to get projects finished through their subordinates, coordinate activities between groups within the organization, exert influence on others within and outside of the organization, plan for future projects, align their groups goals with larger organizational goals, as well as many other leadership tasks.

Interestingly, leaders who occupy middle and lower levels of management serve simultaneously as leaders of their groups but also as followers of organizational leaders above them in the leadership hierarchy. A great deal of research has examined leadership at the highest levels as well as leadership of small groups. However, studying embedded leadership, that is, examining leaders who occupy middle level positions within an organization has fallen out of favor. As organizations pushed to eliminate middle management in the 1980s in favor of more 'flat' or 'rightsizing' organizational structures, research on middle management has waned. However, Floyd and Wooldridge (1992, 1994) suggest that middle managers are important for helping organizations maintain their abilities to engage in sensemaking and adapt to their environment. Additionally, middle managers can also bring needed expertise to an organization.

Lastly, middle manager function as leaders within the body of the organization as they find resources for their group and champion the group's activities within the organization.

Middle management has seen increased interest from organizations since the 1980s and as such it is important to consider what is known about how leaders in these positions function. One's superiors in an organization can have a wide variety of notable influences on their subordinates and there is no reason to suspect that embedded leaders are any different. Superiors have power over the allocation of resources, promotion decisions, performance evaluations, and a variety of other processes and outcomes that have a real and direct impact on an embedded leader (Bass, 1990; Raven & French, 1958a, 1958b; Smith, 1948). Additionally, superiors often set the stage for sensemaking in their subordinates by selecting variables to be monitored, emphasizing certain aspects of performance in group and individual evaluations, and by controlling the flow of information to subordinates (Weick, 1995; Yukl, 2006; Bass, 1990). Additionally, Collinson (2006) suggests that superiors can influence the identity with which subordinates view themselves. Given the clear evidence for the impact a leader can have on a follower, it is more than reasonable to suspect that embedded leaders' superiors will have a notable impact on their ability to perform and the manner in which they carry out their leadership responsibilities.

With respect to how middle managers are influenced by their superiors, Bass, Waldman, Avolio, and Bebb (1987) found a cascading effect for managers using a sample from New Zealand. More specifically, the degree to which leaders on one tier of

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an organization demonstrated transformational or transactional leadership was related to their leader's transformational and transactional leadership behaviors. Similarly, Bowers and Seashore (1966) found a similar pattern regarding subordinate managers' tendency to emphasize facilitating goal attainment and interaction with employees. These studies, along with others (e.g., Stogdill, 1955; Ouchi and Maguire, 1975; Misumi, 1985), generally support the idea that embedded leaders, that is middle managers, tend to model the leadership behaviors demonstrated by their superiors. Thus, these studies would lead one to believe that an embedded leader will lead as they are led. Essentially, leadership behaviors trickle down from one leader to another.

However, it is important to note that the 'domino effect' hypothesis has not always been found. An alternative hypothesis has been put forward by Tichy and Ulrich (1984). These authors suggest that the managerial duties of those who occupy middle management positions are fundamentally different than those of the top management team. Top level managers tend to set policy, make strategy decisions, and monitor the organization's external environment where as middle managers are responsible for carrying out top management directives, implement change dictated by changes in strategy, and attend to the practical, day-to-day operation of the organization. In a sample of military leaders Campbell (1956) found indirect evidence suggesting that leaders alternate rather than model. Given that there has been mixed support for the modeling hypothesis, a more in-depth analysis of the impact superiors have on embedded leadership styles is warranted.

It is also important to note the dual role middle managers, or embedded leaders, play. They serve as both followers and leaders. As such it is important to consider not only leadership behaviors but also followership behaviors as well. In contrast to leadership, followership has received relatively little attention. Bjugstad, Thach, Thompson, and Morris (2006) define followership as "the ability to effectively follow the directives and support the efforts of a leader to maximize a structured organization." Given that there are more followers than leaders in an organization and that followers are the people who carry out organizational tasks, followership is an important topic of investigation. This is especially true when examining leaders who serve as followers even as they lead.

Superior's Motivation Strategy

Of course, if an examination of how a supervisor impact's the leadership behaviors of leaders under their guidance, it is important to consider the leadership behaviors demonstrated by that supervisor. As mentioned previously, the two leading hypotheses regarding leader's influencing the leadership style of their subordinates are the modeling hypothesis (Bass, Waldman, Avolio, and Bebb, 1987; Burns, 1978) and the alternating hypothesis (Tichy and Ulrich, 1984). Given the mixed support these theoretical positions have received it is likely that the effect a superior has on the leadership style of an embedded leader is more complex than the modeling and alternating hypotheses would suggest.

Two important aspects of leadership that are particularly salient to followers is the extent to which a leader is either supportive or coercive. Bankhart and Lanzetta

(1970), Barrow (1976), and Hinton and Barrow (1975) have all produced evidence for the fact that supervisors tend to become more coercive when their subordinates' performance is inadequate. Similarly, Kipnis (1976) has shown that leaders are more likely to use coercive influence tactics when faced with a potential failure situation. In light of these findings, it is likely that the degree to which the organizational consequences are high versus low will influence the degree a leader is likely to use coercive tactics. Similarly, coercive tactics might be more acceptable to subordinates when organizational consequences are elevated. Additionally, it is often the case in real-world organizational settings that organizational leaders will choose a hard-nosed, coercive leader when they discover a high consequence situation needing a speedy, and effective, resolution. However, little research has been conducted to test the wisdom of this strategy.

In direct contrast to coercive influence tactics, supervisors can also try to influence subordinates by being supportive. Although supportive leadership may be more desirable to subordinates, it is not entirely clear what an organization gains when their supervisors use a supportive leadership style (Yukl, 2006). Groups with supportive leaders may become more cohesive and demonstrate higher levels of member satisfaction, but may also be slower in solving problems (Bass, 1990; Fox, 1954; 1957). If time is not a luxury the organization can afford, it may be wise to use a coercive leader when a satisfactory solution must be found in a timely manner. However, research on relations-oriented leadership, of which supportive leadership is a core component (Yukl, 2006; Fleishman, 1953; Stogdill, 1974), suggest that the organization

may benefit by using supportive leaders. Groups led by relationship-oriented leaders tend to produce more ideas (Pandey, 1976), perform better than groups lead by passive, disinterested leaders (Katz, Maccoby, & Morse, 1950), become more interested in organizational success (Riegel, 1955), increased productivity, and increased desire for responsibility (Likert, 1961a, 1967).

It appears that some ambiguity may exist regarding how and when coercive and supportive leadership styles should be used. Supportive supervisors tend to lead groups who are slower at solving problems, thus suggesting that coercive leadership maybe best when time is short. However, supportive supervisors also have groups that generate more ideas, produce more, and want to take more responsibility. Given this ambiguity it is likely to be important to consider specific leadership behaviors likely to be influenced by how a supervisor leads an embedded leader.

Situational Influences

Given evidence that leaders tend to be more coercive when their followers' performance is lacking and when facing a potential failure situation, it is important to consider the consequences the organization is facing along with the supervisor's leadership style. Organizational level consequences may bolster embedded leaders' motivation and prompt them to take a wider view of a situation, or they could threaten the embedded leader, given that the entire organization would suffer, should the group they are leading fail to perform. Thus it is unclear whether high levels of organizational consequences will promote performance for embedded leaders or hinder it. It is likely that organizational level consequences will be seen as being more distal and less

threatening than individual level consequences. Thus a higher level of organizational

consequences are likely to bolster an embedded leader's motivation resulting in higher

levels of active participation, critical thinking, sensemaking, concern for people and

concern for results. Additionally, in a high stakes situation an embedded leader may be

more willing to accept coercive leadership from a superior. However, it is unclear

whether embedded leaders will in turn use a coercive approach with their followers, try

to buffer the supervisor's coercion by using an alternating style, or if a more complex

relationship regarding how leadership trickles down in an organization will be observed.

In order to examine this phenomenon, it is necessary to identify situational

variables that are likely to influence an embedded leader's responses to superiors and

how they lead their subordinates. One important aspect of the situation to consider is the

consequences facing the embedded leader. Facing personal level consequences suggests

a certain level of personal involvement in the outcome stemming from group

performance. Chaiken and colleagues (Chaiken, Giner-Sorella, & Che, 1996; Chaiken,

Liberman, & Eagly, 1989; Chen & Chaiken, 1999) suggest that personal involvement is

one way to encourage systematic cognitive processing, as compared to a heuristic

processing strategy. It is likely that this personal involvement will encourage an

individual to take on a systematic cognitive processing style as compared to a heuristic

style.

Alternatively, if embedded leaders superior emphasizes severe negative

outcomes, such as losing their job or being demoted, that may result for the embedded

leader it is arguable that this will result in the embedded leader feeling threatened.

Should this occur, it is likely that the embedded leader will turn to being self focused, thinking more and more about protecting one's self and less and less about resolving the problem at hand. This would likely serve as a distraction to the embedded leader (Weick, 1993). This distraction could turn the individual's attention away from their responsibilities as a leader and a shift in leadership style should be observable.

Followership Outcomes

Kelley (1992, 2004) has proposed a two-factor model of effective followership. Kelley suggests that a follower's style can be determined by the degree to which they think critically about the issues faced by their group or organization and are actively engaged in resolving the problems at hand. The highest performing followers are those who are critical thinking and actively involved, while lower performers are passive in both their thinking and their action. They do not think critically about the issues faced by their group and merely seek to perform the tasks set before them with minimal effort. Another important aspect of followership is the degree to which the follower expresses support for their leader. Because leadership also involves critical thinking and being actively engaged in resolving problems and promoting a high level of performance, there is reason to believe that these variables will be important to an embedded leader.

With regard to how an embedded leader's critical thinking and active engagement will be influenced by their supervisor and situation, it is likely that critical thinking will be elevated in response to high levels of organizational consequences. The importance of finding a satisfactory solution will be perceived as being important when organizational consequences are high thus inducing a higher level of motivation to

engage in critical thinking. In terms of active engagement, Herzberg's discussion of KITA management styles suggest that using coercive techniques will promote action, but not necessarily motivation. In light of this argument, active engagement can be expected to increase as a result of coercion.

> *Hypothesis 1a: Embedded leaders will engage in higher levels of critical thinking when organizational consequences are high.*
>
> *Hypothesis 1b: Embedded leaders will be more actively engaged as a result of coercive motivation tactics being used by the embedded leader's superior.*
>
> *Hypothesis 1c: Embedded leaders will express less support for their superior when the superior uses a coercive leadership strategy.*

Leadership Outcomes

In addition to the embedded leader's role as a follower, they are also expected to function as a leader. In fact, because an embedded leader's followers are responsible for carrying out the tasks needed to meet organizational goals and considering the fact that they may not see how their embedded leader performs in their role as a follower, it is likely that an embedded leader's performance as a leader is more important than their performance as a follower.

Fortunately, a wide array of leadership variables has been identified and shown to be related to subsequent leader and group performance. It is important to evaluate embedded leader's performance as a leader as well as a follower considering their dual role. One important way in which leader behavior has been assessed is the degree to which a leader focuses on task oriented issues and people oriented issues (Blake &

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Mouton, 1964; Fleishman, 1953; Bowers & Seashore, 1966; Hemphill & Coons, 1957).

These two variables have been included in a wide variety of leadership models and

appeared under a variety of names; here we will simply refer to them as concern for

results and concern for people.

Although the operational definitions of these two variables may vary slightly

from model to model, there are common threads that generalize across each

reconceptualization. In the case of concern for results, most models hold that this

variable is the degree to which a leader emphasizes task-oriented behaviors. These

include planning, defining objectives, clarifying followers' tasks and roles, and

monitoring group performance. Concern for people involves emphasizing actions that

promote follower well-being, managing follower relationships, and supporting others.

This includes working to develop subordinates, praising followers, and showing concern

for other's needs and concerns.

Researchers have identified a long list of leader and group outcomes influenced

by concern for results and concern for people. Concern for results has been shown to

influence leader advancement, perceptions of leader competence, and leader

effectiveness (Boyatizis, 1982; Carrol & Gillen, 1987; Kim & Yukl, 1995; Yukl, Wall,

& Lepsinger, 1990). Concern for people has been shown to result in the building and

maintenance of productive relationships (Yukl, Gordon, & Taber, 2002), follower

satisfaction with the leader (Bass, 1990; Yukl, 1998), and, to a much lesser degree,

follower performance (Fisher & Edwards, 1988; Kim & Yukl, 1995; Yukl, Wall, &

Lepsinger, 1990). Additionally, some evidence suggests that these relationships hold

across a wide variety of contexts including military, education, and both small and large for-profit organizations (Yukl, Wall, & Lepsinger, 1990). It is important for organizational leaders to consider, the degree to which an embedded leader demonstrates concern for results and concern for people is important for organizations. Not only can influence the employee satisfaction throughout the organization, it also can influence how well the individuals that actually do the organization's work are able to perform.

It is likely that an embedded leader will show higher levels of concern for people when they are faced with a coercive supervisor and low levels of organizational consequences. In this set of conditions the leader is likely to feel the need to off-set the supervisor's coercive tactics because the situation is not a high stakes scenario. However, when the stakes are higher, that is, when organizational consequences are high, the use of a coercive technique is more understandable and the embedded leader will be more likely to show higher levels of concern for results.

Hypothesis 2a: Embedded leaders will demonstrate higher levels of concern for people when their supervisor uses a coercive motivational technique and the consequences are low.

Hypothesis 2b: Embedded leaders will demonstrate higher levels of concern for results when organizational consequences are high and the leader uses a coercive motivational technique.

In addition to concern for results and concern for people, another pair of variables have also been studied together in relation to leader performance: participative leadership and directive leadership. These distinct approaches to leading have also be

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studied extensively and shown to be related to a variety of leader and group performance. Directive leadership can be described as a style in which a leader makes decisions without consulting subordinates, instructions and decisions are made without follower input, and specific tasks and schedules are given to followers without explanation (Bass, 1990). Participative leadership can be described as a leadership style in which the leader shares decision-making power, encourages follower input during discussions, and expects followers to be actively involved in the process of problem-solving (Bass, 1990).

A directive leadership style has been linked to outcomes such as group cohesion (Burke, 1966a, 1966b; Katzell, Miler, Rotter, & Venet, 1970), garnering follower agreement (Anderson & Balzer, 1988; Bass, 1967a; Thiagarajan & Deep, 1970) and follower satisfaction (Farrow, Valenzi, & Bass, 1980). Participative leadership has been shown to be related to decision quality (Bass, 1960; Lanzetta & Roby, 1960; Lorge, Fox, Davitz, & Brenner, 1958), decision acceptance (Bass, 1958; Likert, 1961a, 1961b), follower satisfaction (Aspergren, 1963; Harrison, 1985; Preston & Heintz, 1949; Ziller, 1954), task motivation (Aspergren, 1963), and absenteeism (Mann & Baumgartel, 1952). Although there is a great deal of evidence supporting the use of a participative leadership style, it should be noted that using a participative leadership style may be more costly than directive leadership, as it tends to disenfranchise managers, take time to build consensus and render a final decision, and is more costly, in terms of training costs associated with building followers' expertise to a level at which they can participate in the decision-making and problem-solving processes in a productive

manner (Bass, 1990; Miner, 1973). Thus there are conditions in which directive leadership is desirable over participative leadership and vice versa. If a quick decisions are more important than accuracy and follower acceptance is not highly valued having embedded leaders use a directive approach is appropriate. However, if the quality of a decision is important and employee acceptance is needed, it would be more appropriate to use a participative leadership style.

Embedded leaders are more likely to use participative leadership when they are facing a low stakes situation. In this case, the immediate urgency of finding a solution is limited and time can be taken to build support and develop a high quality solution from the ground up. Having a supportive supervisor will also encourage the embedded leader to use participative leadership given that this approach will communicate that taking care of one's followers is valued. Alternatively, directive leadership is more likely when the stakes are high and the supervisor uses a coercive leadership style. In this case the urgency will be elevated and the embedded leader will feel more direct pressure to develop a satisfactory solution regardless of whether or not the followers are on board or not.

Hypothesis 3a: Embedded leaders will demonstrate higher levels of participative leadership when individual and organizational consequences are low and supportive leadership is modeled by their superior.

Hypothesis 3b: Embedded leaders will demonstrate higher levels of directive leadership when organizational consequences are high and their superior uses a coercive leadership style.

In addition to the issues that a leader focuses on, and the leadership style a leader uses, leader sensemaking is important for leader problem-solving, decision-making, and planning. Sensemaking is one's ability to develop a coherent, interpretable understanding of an ambiguous situation that facilitates subsequent decision-making and action (Caughron, Shipman, Beeler, & Mumford, 2009; Weick, 1995). Not only does sensemaking help a leader make decisions and direct action, it also sets the stage for communication, coordination, and progress monitoring within a given situation and social setting (Day, Gronn, & Salas, 2004; Hershey & Walsh, 2001). As such, it is an important variable to consider when examining how a leader, in this case an embedded leader, is likely to function in situations calling for problem-solving, communicating with subordinates and superiors, decision-making, directing action, and monitoring a group's progress toward a goal.

Hypothesis 4: Embedded leaders will be more effective at sensemaking when individual consequences are low.

Method

Sample

The sample consisted of 236 undergraduate students (49 males and 187 females) drawn from an introductory psychology course at a large southwestern university. The study was announced via a website posting describing the study as a leadership problem-solving study. The mean age of the participants was 19.5 years of age. The mean reported ACT score was 24.85 suggesting that these students represent a set of typical undergraduates, in terms of demographics and general intelligence.

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General Procedures

Upon arriving at the study location, participants read and signed an informed consent form. The study was conducted in a single 3-hour session divided into two blocks. The first block was half an hour long and involved a proctor guiding the participants through a series of timed individual difference measures. The second block was scheduled for two and a half hours. During this time, the participants were allowed to complete the remainder of the study materials at their own pace.

The primary experimental task was a low fidelity simulation (Motowidlo, Dunnette, & Carter, 1990) consisting of a scenario in which the participants assumed the role of a middle-manager in an embedded leadership position. In this scenario they are overseeing the development, production, and marketing of a new automobile and writing two open-ended responses to the CEO about how best to turn around lagging sales of the automobile. The first response is given before the manipulations and the second is given after the manipulations occur.

More specifically, the participants read a brief description of the company involved in the scenario, including a brief statement about the current circumstances the company was facing. Throughout the rest of the vignette, the participants read mock emails from the head of the company soliciting input from the participant about how to best manage this struggling segment of the organization's business. The vignette was divided into two parts. In the first half of the vignette, the CEO of the organization prompts the participant to work with his or her subordinates to propose a viable plan for helping this struggling segment of the organization to improve performance and become

profitable once again. The participant is told by the CEO that he will take their input into account as he prepares a presentation to the board of directors. Upon returning from the board meeting with the board of directors, the CEO writes an email stating that the meeting with the board did not go well. After informing the participant that the meeting did not go well, the CEO gives the participant instructions to develop a final plan for dealing with the problem. The participant's original solution to the problem before the CEO goes to the board meeting represents the pre-manipulation task, then the manipulations take place in the email to the participants upon the CEO's returning from the board meeting, and the final problem solution developed by the participant is the post-manipulation task. This design allows participants to serve as their own control because they gave a response before the manipulations and then after being exposed to the manipulations.

Individual Difference Measures

Measures were administered in order to control for the role of individual differences upon the variables of interest. Participants' personality, intelligence, need for cognition, planning skill, and the number of supervisors they have had in their work experience were examined as covariates. Participant's responses on the Risk Behavior Scale (Weber, Blaise, and Betz, 2002), American College Testing (ACT) exam, and Planning Skills Measure (Marta, Leritz, and Mumford, 2005) were the only covariate controls to demonstrate significant relationships with the variables of interest and thus were the only ones retained for subsequent analysis.

Experimental Manipulations

Organizational consequences. Each of the manipulations was written into the scenario, embedded within the CEO's response to their meeting with the board of directors. Participants read this email after they gave their first response to the problem and before they gave their second response to it. In the email, the CEO discusses organizational consequences that could occur if the problem is not resolved adequately. In the high organizational consequences condition, the CEO chooses to present the board of directors with a plan that is extremely costly in terms of money (approximately $141 million as stated in the vignette) and time (6-8 months) before the organization will begin to see if the plan is helping the problematic business unit improve performance. In the low organizational consequences condition, the CEO presents the board of directors with a plan that is much less costly (approximately $1 million as stated in the vignette) and while requiring some downtime (4-6 weeks), will not delay production of the vehicle as much as the high consequence condition.

Individual consequences. As with the organizational risk manipulation, individual consequences was also manipulated at two levels. In the high individual consequences condition the CEO tells the participant that the board of directors was particularly disappointed with his or her work and that they are considering demoting or laying off the participant. In the low individual consequences condition the CEO tells the participant that he expects him or her to work through the weekend in order to get a new report finished by Monday.

Superior's motivation strategy. The CEO's motivational strategy was set at three levels. The first level was that of a coercive response. In this condition the CEO gets

angry with the participant and his or her coworkers in the scenario, questions their competence and commitment, and reprimands them for poor performance. The second level of this manipulation was a supportive response from the embedded leader's superior. In this condition the CEO still tells the participant and his or her coworkers that the board meeting did not go well but emphasizes that they were not to blame and that the primary cause of the problem was his choice of exactly which material to present to the board of directors. In this condition the CEO is much more supportive and encouraging to the participant and his or her coworkers, takes responsibility for what the CEO himself could have done differently, and encourages the employees to move forward in a positive direction. The final condition within this manipulation is that of a passive response. In this condition the CEO still mentions that the board meeting did not go well, but does not give the employees feedback regarding their performance, nor does he mention taking responsibility himself for any mistakes that may have occurred.

Content coding. Content coding was used to measure a variety of leadership and followership variables in this study. These variables have been identified as important variables for leaders and followers to exhibit in performing their duties and include sensemaking (Weick, 1995), support for the participant's superior (Evans, 1970; Kelley, 1992, 2004), active thinking in developing a plan to resolve the problem (Kelley, 1992), active involvement in executing a plan to resolve the problem (Kelley, 1992, 2004), concern for people and concern for results (Blake & Mouton, 1964; Fleishman, 1953; Bowers & Seashore, 1966; Hemphill & Coons, 1957), and finally, demonstrating

participative and directive leadership (Evans, 1970; Georgopoulos, Mahoney, & Jones, 1957; House, 1971).

The four judges involved in this content coding effort were senior-level graduate students working toward obtaining their PhD in I/O psychology. During their training the judges were introduced to operational definitions for each of the variables to be coded. Additionally, time was spent during each training session rating materials and comparing ratings on a subset of materials drawn from the participants' responses to the stimulus materials. Ratings for each construct were made on a 5-point Likert scale. Discussions were held when judges did not agree on how to rate a given response until the judges had a minimum reliability of .70 on ten items drawn from the participant materials for each construct they were rating. After this was achieved, the judges were given the rest of the participant materials to rate and reliabilities were checked again at the end of the study. The judges were blind to the participants' conditions. Judges were each given a manual describing the rating strategy, which included definitions of each construct, markers that highlighted key aspects of the construct, and example materials drawn from participant responses representing high, medium, and low performance on each construct. Table 1 presents the construct label, definition, reliability, and source for each of these variables.

Insert Table 1 About Here

Results

Table 2 presents the correlations between the leadership and followership dependent variables. It should be noted that a high correlation between critical thinking and sensemaking is observed suggesting that ratings of sensemaking and critical thinking were tapping the same dimension. Discussion of these two variables as separate and distinct should be taken with appropriate caution. In order to test the hypotheses regarding differences in leadership and followership by embedded leaders, a series of analysis of covariance (ANCOVA) analyses were conducted. This allowed the researchers to control for the participant's initial response, relevant covariate measures, and test the relationship of the manipulations on the final participant solution. One ANCOVA analysis was conducted for each leadership outcome variable so that the participant's initial response could be used as a covariate for that variable only. This included the embedded leader's concern for results, concern for people, sensemaking, support for their superior, critical thinking, active engagement, directive leadership, and participative leadership. Table 3 presents all the between-subjects results for all dependent variables that were approaching significance at the $p=.10$ level or lower.

Insert Table 2 About Here

Insert Table 3 About Here

Tables 4-12 present the estimated marginal means for each significant main effect and interaction found in the omnibus ANCOVA analysis. These means are charted on graphs in Figures 1-9. Table 4 along with Figure 1 shows a significant decline in participant sensemaking as a result of higher individual level consequences discussed by the embedded leader's superior ($M = 2.85$, $SD = 0.27$ vs. $M = 2.67$, $SD = 0.23$). This is likely the effect of participant's focusing on personal issues as a result of high levels of individual consequences. This is not a suprising finding in light of literature suggesting that threatening circumstances cause individuals to become self focused and limits their ability to engage in sensemaking (Weick, 1993). It appears that if the personal involvement takes the form of personally relevant consequences, especially severe consequences, participants become less engaged in the task at hand and presumably focus on more personal level issues surrounding the perceived consequence. This provides support for hypothesis 4 which suggested that sensemaking would be less effective when individual level consequences are high.

Insert Table 4 About Here

Insert Figure 1 About Here

Table 5 and Figure 2 show a significant decline in the level of support for their superior the participants discuss in their responses as a result of higher organizational

consequences ($M = 3.00$, $SD = 0.11$ vs. $M = 2.93$, $SD = 0.09$). This was an unexpected

finding and may be the result of participants feeling that their superior has steered them

in the wrong direction, given that the organizational consequences are at a high level.

Table 6 and Figure 3 also show a notable dip in participant support for the superior, but

in this case, it is the result of the embedded leader's superior taking a coercive

motivational approach ($M = 3.03$, $SD = 0.13$ vs. $M = 2.89$, $SD = .011$ vs. $M = 2.99$, $SD =$

0.13). This supports hypothesis 1c which suggested that embedded leaders will express

less support for their leader when they use a coercive leadership style.

Insert Table 5 About Here

Insert Figure 2 About Here

Insert Table 6 About Here

Insert Figure 3 About Here

The last of the main effects are shown in Table 7 and Figure 4. Here an increased

level of active engagement by the participants is shown to result from their superior

taking a coercive approach to motivating his followers ($M = 2.33$, $SD = .038$ vs. $M =$ 2.49, $SD = 0.33$ vs. $M = 2.21$, $SD = 0.38$). This is consistent with Herzberg's assertions that KITA will produce action by followers, without inspiring motivation (Hertzberg, 1987). This supports hypothesis 1b which suggests that a coercive supervisor will encourage action on the part of their followers.

Insert Table 7 About Here

Insert Figure 4 About Here

Table 8 and Figure 5, along with Table 9 and Figure 6 present classic crossing interactions, one for levels of participant critical thinking and the other for concern for people. Both effects are the result of an interaction between organizational and individual level consequences. Lower levels of critical thinking and concern for people are shown for participants who were in the low individual and low organizational consequences condition ($M = 2.61$, $SD = 0.41$ and $M = 2.26$, $SD = 0.42$, respectively), as well as those in the high-high condition for individual and organizational consequences condition ($M = 2.61$, $SD = 0.34$ and. $M = 2.25$, $SD = 0.35$, respectively). High levels of critical thinking and concern for people were found for participants who were in the low individual and high organizational consequences as well as those in the high individual and low organizational consequences ($M = 2.78$, $SD = 0.42$ and. $M = 2.84$, $SD = 0.37$,

for critical thinking and $M = 2.44$, $SD = 0.38$ and. $M = 2.41$, $SD = 0.42$, for concern for people). Given that the low-low condition is likely to present a condition in which there are relatively small consequences for poor performance, it is not surprising that this condition resulted in low levels of critical thinking and concern for people. It is likely that the participants who were given one high and one low level of consequences were motivated by the moderate level of consequences facing them, whereas those in the high-high condition appear to be distracted or overwhelmed by the high level of consequences they were facing and demonstrated lower levels of critical thinking and concern for people.

This provides partial support for hypothesis 1a which suggests that embedded leaders will engage in higher levels of critical thinking when organizational consequences are high. Also, this finding suggests that critical thinking can also be induced when individual level consequences are emphasized but not when both individual and organizational consequences are high. Interestingly, this disconfirms hypothesis 2a which suggests that embedded leaders will use more participative techniques when the consequences are low. The findings here suggest that participative leadership may be the chosen technique when a mix of high and low consequences are present. When consequences at both the individual and organizational level are both high or low, participative leadership is less likely.

Insert Table 8 About Here

Insert Figure 5 About Here

Insert Table 9 About Here

Insert Figure 6 About Here

The final two interactions are shown in Table 10 and Figure 7 and Table 11 and

Figure 8. These represent complex three way interactions for the participative leadership

variable. Interestingly, the highest level of participative leadership was demonstrated for

participants who were exposed to low levels of organizational and individual

consequences and a coercive supervisor ($M = 2.50$, $SD = 0.64$). Interestingly, a coercive

approach from the participant's superior resulted in a similar pattern of results for

participants who were exposed to high levels of both individual and organizational

consequences ($M = 2.32$, $SD = 0.59$). In both cases, high levels of participative

leadership were demonstrated. Lastly, high levels of participative leadership were also

demonstrated for participants who were exposed to the high organizational, low

individual consequences condition combined with a supportive superior ($M = 2.34$, $SD =$

0.73).

These findings disconfirm hypothesis 3a which suggests that low consequences paired with a supportive supervisor will lead to higher levels of participative leadership. What is found here is that higher levels of participative leadership was found when an embedded leader was provided with a coercive leader in low consequence circumstances. It is likely that the participants did not see the need for coercion in a low consequence environment and thus countered that coercion with a participative leadership style. These findings also suggest that a supportive leader can promote participative leadership in their subordinates when individual consequences are low and organizational consequences are high. This may be the impact of the embedded leader not being distracted by high levels of individual level consequences and being motivated to use a participative technique to solve the problem because it is modeled by their leader and the needs of the organization are readily apparent.

Insert Table 10 About Here

Insert Figure 7 About Here

Insert Table 11 About Here

Insert Figure 8 About Here

This complex pattern of findings suggests two things. First, levels of participative leadership embedded leaders display can be influenced by how they are led and the situation they are facing. Second, enhancing an embedded leader's use of participative leadership techniques is a complex proposition. On one hand, a coercive motivational strategy can stimulate an embedded leader to use participative leadership when they are faced with low levels of both individual and organizational level consequences. On the other hand, participants demonstrated high levels of participative leadership resulting from exposure to a coercive leader and high levels of both organizational and individual level consequences. It is interesting that an embedded leader would tend to more participative when faced with a coercive supervisor and high and low levels of both organizational and individual level consequences. It appears that coercive leadership may promote the use of participative leadership techniques by embedded leaders at extreme ends of the spectrum with regard to potential consequences. Lastly, participants also showed higher levels of participative leadership when coup-led with a supportive superior, low levels of individual consequences and high levels of organizational consequences.

Before moving on to the discussion a few comments should be made about the hypotheses that have yet to be mentioned here and were not confirmed. It is interesting that no significant findings were found for directive leadership and concern for results. It may be the case that these leadership behaviors are less sensitive than others to the level

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of consequences being faced by the individual and organization and the motivation techniques employed by an embedded leader's supervisor. These two leadership behaviors have been linked to important organizational outcomes in prior work and future research should examine how supervisors can encourage their subordinates to demonstrate them.

Discussion

Several practical implications can be taken away from these findings. First, leaders who serve simultaneously as a leader of some and a follower of others within an organization (i.e., embedded leaders), behave differently depending on how their superior interacts with them and the situation they are facing. This is a notable finding given that a great deal of leadership occurs at the middle levels of an organization. Embedded leaders are often responsible for accomplishing the day-to-day tasks that enable an organization to function smoothly and pursue the goals handed down from top level leaders. Knowing how to facilitate specific types of leadership behavior can enable top level organizational leaders to actively manipulate the type of leadership behaviors middle managers demonstrate.

Interestingly, while coercive leadership may not be popular, it may actually be effective in some situations. Findings here suggest that supervisor coercion can cause an embedded leader to develop a plan of action in which they are more actively involved than a passive or supportive influence strategy. Also, it can increase the degree to which an embedded leader uses a participative leadership style in some situations. Specifically, embedded leaders displayed higher levels of participative leadership when facing low

consequences for the self and the organization and coercive leadership. Similarly, embedded leaders showed higher levels of participative leadership when facing high consequences for both the organization and the self and a coercive supervisor.

These two sets of findings seem contradictory. Both suggest that middle managers will display higher levels of participative leadership when faced with coercive leadership, however, one suggest that it is in response to high consequence environmental factors and the other that it is in response to low consequences in the environment. Stated differently, these finding suggest that when the stakes are very high or very low, that embedded leaders respond to coercive leadership by being participative. That is, they do not merely model their leader's style they attempt to buffer it. It is likely that the embedded leader sees no need for coercive leadership when the stakes are low and thus attempts to compensate for it. Alternatively, in the high stakes situation, middle managers may respond to coercion by being participative in order to give followers the feeling that they are a part of the solution. Additionally, embedded leaders may take an alternative response to coercion in high stakes situations because they perceive that their followers' do not need to be pushed and directed, the importance of the problem should be obvious and thus the primary need at this point is a collective approach to solving the problem.

In direct contrast to the argument that embedded leaders compensate rather than model their superior's leadership style is the finding here that embedded leaders demonstrated higher levels of participative leadership when faced with high levels of both individual and organizational level consequences when paired with a supportive

leader. This would tend to support the modeling argument. Given that neither the modeling nor the compensatory hypotheses of how leadership trickles down in an organization have been overwhelmingly supported in the literature, it is likely that situational factors influence when modeling and when compensating/alternating tend to occur. It is also likely that the alternating or modeling hypotheses are more applicable with some leadership behaviors than others. Here we see a clear distinction with regard to participative leadership behaviors. In one set of circumstances the alternating/compensatory hypothesis seems to hold, but in the other the modeling hypothesis seems to be applicable.

A few interesting main effects were also observed. The fact that an embedded leader's sensemaking behaviors were lower when faced with higher levels of individual consequences is somewhat surprising. In light of Chaiken and colleagues' work suggesting personal involvement promotes systematic processing (Chaiken, Giner-Sorella, & Che, 1996; Chaiken, Liberman, & Eagly, 1989; Chen & Chaiken, 1999). However, the findings here are in line with Weick's analysis regarding the Mann-Gulch disaster, it is likely that personal level consequences, especially severe consequences, act to promote a more individualistic cognitive processing style (Weick, 1993). In short, individual level processing may be primed by emphasizing individual level outcomes. Similarly, if those outcomes are potentially negative, individuals may begin to look for a way to better the situation for themselves or look to escape the situation rather than focusing on resolving the larger problem at hand. Ultimately, the type of personal

involvement and the object of an individual's systematic processing are probably important factors to consider with regard to sensemaking.

With regard to embedded leaders' supporting their superior, it is not surprising to see that they are less supportive when their superior uses coercive methods for motivating them or when the organizational level consequences are high. It is likely that embedded leaders interpret high levels of organizational consequences as an indicator that their superior has made errors in leadership and may be less attractive as a leader. It is also rarely the case that followers become more supportive of their superior when supportive behaviors are not being modeled.

The final main effect finding is one that is a bit more unexpected. Embedded leaders exposed to a superior using a harsh motivational technique demonstrate higher levels of active involvement. However, this is in line with Hertzberg's assertions that harsh, KITA-type techniques by superiors can inspire movement (Herzberg, 1987). If action is all that a leader wants, perhaps using a coercive method is advisable. However, the other findings from this study would suggest that the choice to use coercive motivational techniques should be made carefully.

Lastly, it should also be noted that that a low-fidelity simulation was used to examine multi-level effects of leadership in this study. It is difficult to examine multi-level effects for several reasons. First, samples of leaders and followers are difficult to obtain for experimental purposes. In traditional experimental settings time does not allow for a true leader-follower relationship to be formed and manipulated. In real world settings organizations are not apt to permit the manipulation of leaders and their

followers given that they are busy trying to do the organization's work. The use of a low-fidelity simulation gets around these problems and as simulation technologies become increasingly complex and realistic, this method shows promise for examining multi-level effects for a variety of constructs.

Limitations

A number of limitations should be noted with respect to interpreting these findings. First, the study uses undergraduates participating in a low-fidelity simulation task. Although evidence has accrued attesting to the validity of using this sample along with this type of task in order to measure cognitive and behavioral variables (Motowidlo, Dunnette, & Carter, 1990; Wintre, North, & Sugar, 2001), it is possible that using a different sample will give somewhat different results. It is likely that real embedded leaders faced with real organizational or individual level consequences would actually respond in a much stronger fashion, although the direction of the relationships is likely to remain the same.

Additionally, the study design used in the current manuscript allowed for an exceptionally high level of statistical power given that participants' responses on a preliminary task were used as a control in examining their post-manipulation responses. This combined with the low effect sizes obtained in the present work and the small magnitude of the mean differences found between conditions should be taken into account when interpreting these findings.

Lastly, as with all experiments the number of factors being considered is quite small. It is likely that there are many other factors that may influence how leadership on

one level of an organization influences leadership on lower levels. It is notable that there were no significant findings with regard embedded leaders demonstrating directive leadership and concern for results. These two leadership behaviors have been shown to be related to a variety of important organizational outcomes and further research should be conducted to determine how high levels managers can facilitate leaders under their guidance using these behaviors with their followers.

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Table 1.

Construct	Reliability	Definition	Source
Concern for Results	.829	The extent to which the individual focuses on completing tasks, achieving goals, or getting desired results	Blake & Mouton, 1985; Likert, 1979; Bowers & Seashore, 1966; Hemphill & Coons, 1957
Concern for People	.781	The extent to which the individual focuses on the wellbeing of subordinates, managing relationships, or meeting the needs of others	Blake & Mouton, 1985; Likert, 1979; Bowers & Seashore, 1966; Hemphill & Coons, 1957
Sensemaking	.755	The extent to which the individual thinks about the individuals involved, and relevant principles, goals & values at play in the situation	Weick, 1995
Support for Superior	.745	Individuals expresses concern for and/or takes action to promote the welfare of their superior	Evans, 1970
Critical Thinking	.782	The degree to which the individual invests a their cognitive resources and critically examines problems or situations in order to facilitate organizational performance.	Kelley, 1992, 2004
Active Engagement	.846	The degree to which the individual participates fully, takes ownership of their actions, works hard to accomplish organizational goals, takes initiative for completing tasks, and goes above and does tasks outside of their strict job description to allow the organization to progress.	Kelley, 1992, 2004 -
Directive Leadership	.748	The degree to which the individual tells subordinates exact behaviors to perform, sets schedules, makes plans, or stresses adherence to rules.	Evans, 1970; Georgopoulos, Mahoney, & Jones, 1957; House, 1971
Participative Leadership	.825	The extent to which the individual expresses a desire to consult with subordinates, gather information from others, asks for opinions or suggestions, or encourages others to make decisions.	Evans, 1970; Georgopoulos, Mahoney, & Jones, 1957; House, 1971

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Table 2. Correlations among leadership and followership outcome variables

	Sensemaking	Support for Superior	Active Engagement	Critical Thinking	Concern for Results	Concern for People	Directive Leadership
Sensemaking							
Support for Superior	.101						
Active Engagement	.588**	-.053					
Critical Thinking	.834**	.176**	.630**				
Concern for Results	.568**	.081	.433**	.559**			
Concern for People	.574**	.144*	.417**	.610**	.222**		
Directive Leadership	.632**	.093	.251**	.619**	.486**	.348**	
Participative Leadership	.605**	.039	.667**	.590**	.371**	.474**	.295**

Note: * indicates $p<.05$; ** indicates $p<.01$

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Table 3. ANCOVA results for outcomes controlling for participants' pre-measure score.

Variable		F	df	p	$\eta2$	Retained Control Measures
Confidence						
Main Effects	None					
Interactions	Organizational Consequences* Superior's Influence Strategy	3.96	2,233	0.02	0.034	None
Situational Awareness						
Main Effects	Individual Consequences	4.35	1,234	0.038	0.019	None
Interactions	None					
Support for Superior						
Main Effects	Organizational Consequences	3.96	1,234	0.048	0.017	None
	Superior's Influence Strategy	5.88	1,234	0.003	0.05	
Interactions	None					
Critical Thinking						
Main Effects	None					ACT, Planning Ability
Interactions	Organizational Consequences* Individual Consequence	4.61	2,233	0.033	0.02	
Active Involvement						
Main Effects	Superior's Influence Strategy	2.87	1,234	0.059	0.025	None
Interactions	None					
Concern for Results						
Main Effects	None					None
Interactions	None					

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Table 3 con't. ANCOVA results for outcomes controlling for participants' pre-measure score.

Variable	F	df	p	$\eta2$	Retained Control Measures
Concern for People					
Main Effects	None				Risk Taking
Interactions					
Organizational Consequences* Individual Consequence	3.27	2,233	0.072	0.015	
Directive Leadership					N/A
Main Effects	None				
Interactions	None				
Participative Leadership					None
Main Effects	None				
Interactions					
Organizational Consequences* Individual Consequences* Superior's Influence Strategy	2.65	3,232	0.073	0.023	

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Table 4

Sensemaking

	M	SD
Individual Consequences		
Low	2.85	0.27
High	2.67	0.23

Table 5

Support for Superior

	M	SD
Organizational Consequences		
Low	3.00	0.11
High	2.93	0.09

Table 6

Support for Superior

	M	SD
Superior's Influence Strategy		
Passive	3.03	0.13
Active Negative	2.89	0.11
Active Positive	2.99	0.13

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Table 7

Active Engagement

		M	SD
	Passive	2.33	0.38
Superior's Influence Strategy	Active Negative	2.49	0.33
	Active Positive	2.21	0.38

Table 8

Critical Thinking

		Organizational Consequences			
		Low		High	
		M	*SD*	*M*	*SD*
Individual Consequences	Low	2.61	0.41	2.78	0.42
	High	2.84	0.37	2.61	0.34

Table 9

Concern for People

		Organizational Consequences			
		Low		High	
		M	*SD*	*M*	*SD*
Individual Consequences	Low	2.26	0.42	2.41	0.42
	High	2.44	0.38	2.25	0.35

Table 10

Participative Leadership in Low Organization Consequence

		Individual Consequences			
		Low		High	
		M	SD	M	SD
	Passive	2.07	0.72	2.24	0.75
Superior's Influence Strategy	Active Negative	2.50	0.64	2.30	0.65
	Active Positive	1.99	0.71	2.11	0.73

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Table 11

Participative Leadership in High Organization Consequence

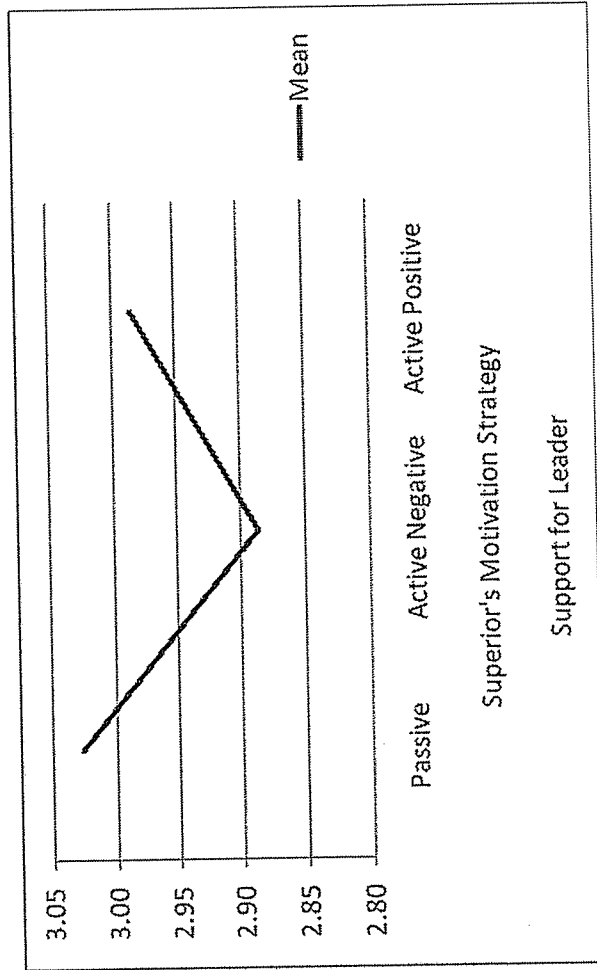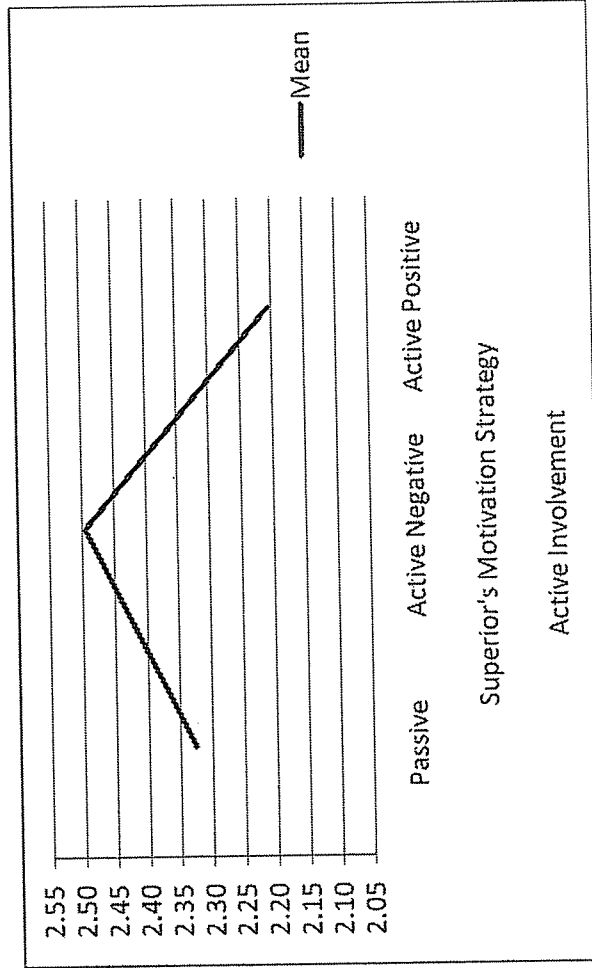| | | Individual Consequences | | | |
| | | Low | | High | |
		M	SD	M	SD
Superior's Influence Strategy	Passive	2.05	0.71	2.02	0.68
	Active Negative	1.96	0.64	2.32	0.59
	Active Positive	2.34	0.73	2.02	0.71

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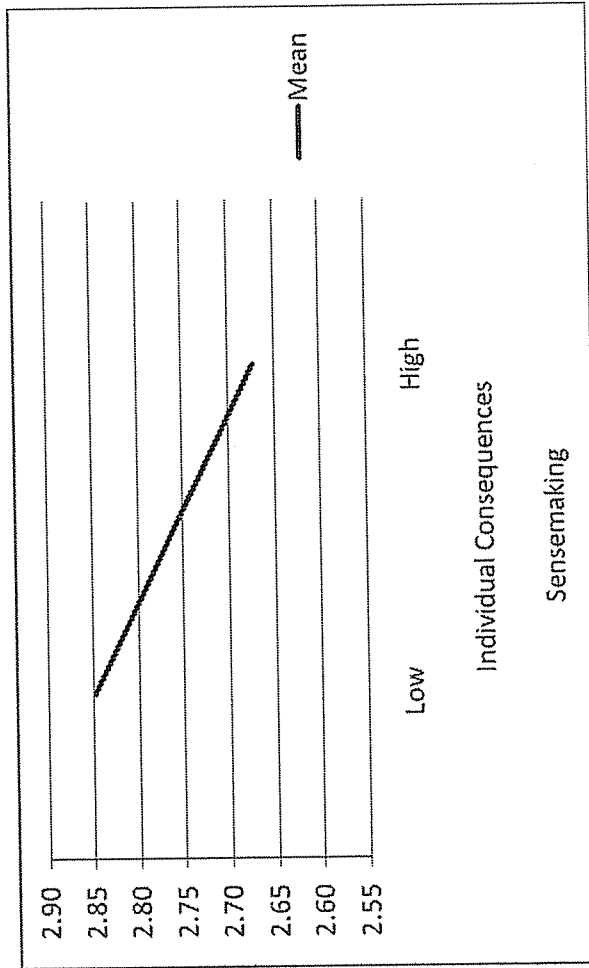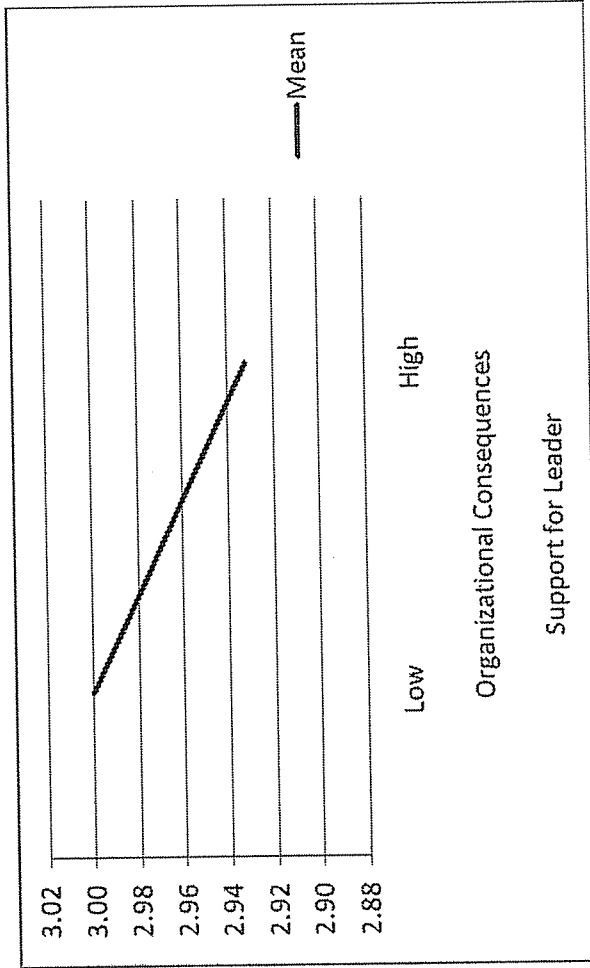
Figure 1.

Figure 2.

Figure 3.

Figure 4.

Figure 5.
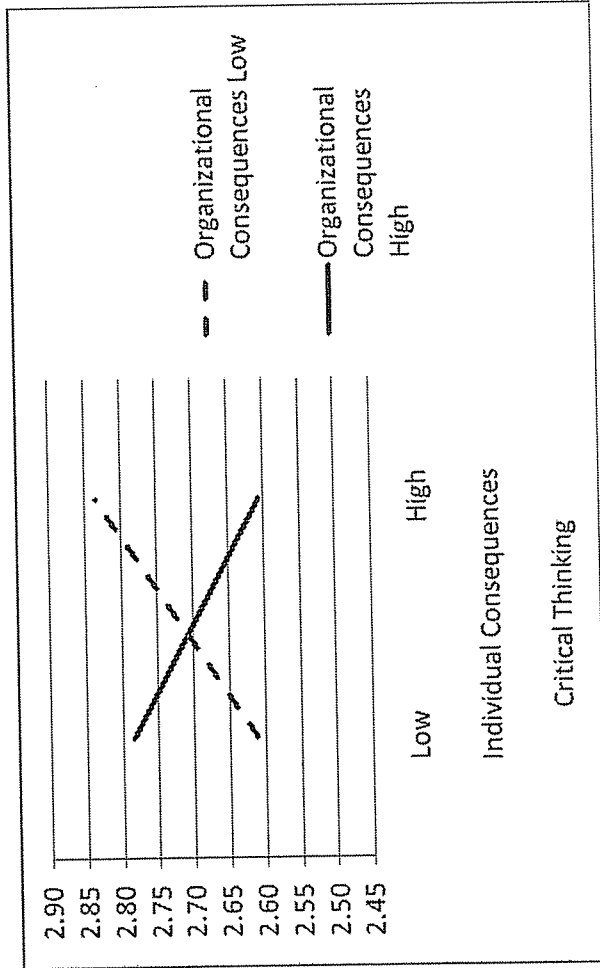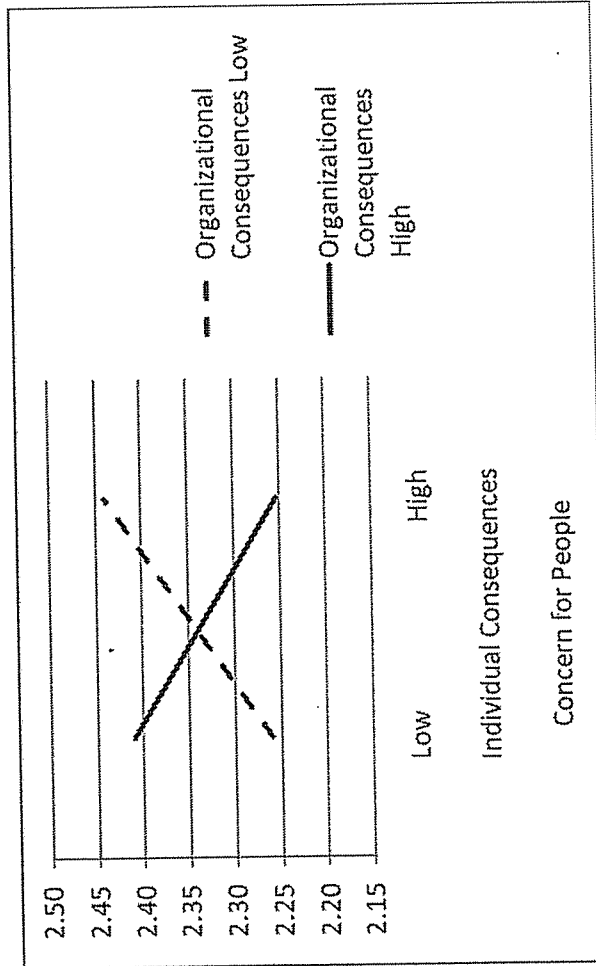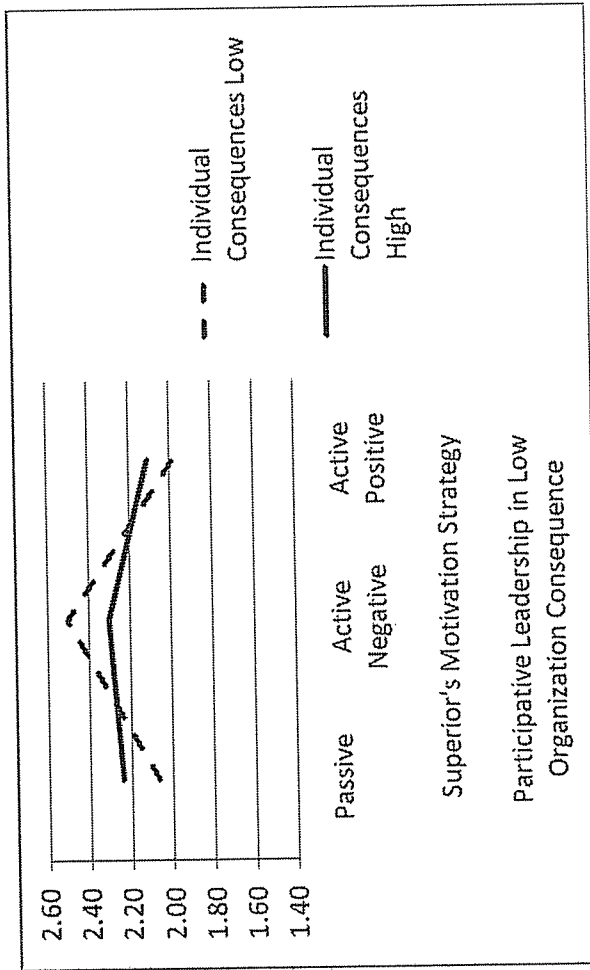
Figure 6.

Figure 7.

Superior's Motivation Strategy

Participative Leadership in Low
Organization Consequence

- - - Individual
Consequences Low

——— Individual
Consequences
High

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Figure 8.