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Yash Gujar
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SOCIOECONOMIC STATUS AND LEADER BEHAVIOR:

IMPACTS ON TEAM PERFORMANCE

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BY THE COMMITTEE CONSISTING OF

Dr. Michael D. Mumford, Chair

Dr. Shane Connelly

Dr. Jorge Mendoza

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Abstract

Although socioeconomic status (SES) was found, in early studies, to be strongly related to leader emergence, in recent years the impact of SES on leadership has received little attention. In the present study, 48 teams were asked to work on a turnaround plan and then nominate team leaders. Team leader socioeconomic status was assessed, along with three key leadership behaviors—initiating structure, leader-member exchange, and servant leadership. The impact of these behaviors, and SES, on the quality, originality, and elegance of team turnaround plans was assessed. Although initiating structure did interact with SES with respect to the elegance of team plans, generally, the SES of leaders had little impact on team performance. The implications of these observations for understanding the impact of SES on leader performance are discussed.

Keywords: Leadership, socioeconomic status, initiating structure, LMX, servant leadership.

Introduction

Leader emergence, and the performance of those asked to lead teams, or firms, are influenced by a host of variables (Bass & Bass, 2008; Yukl, 2011). For example, how leaders craft and articulate viable visions has been found to be of some importance (Shamir, House, & Arthur, 1993). Peoples' cognitive capacities, both general intelligence (Antonakis, Simonton, & Wai, 2019) and specific cognitive skills (Mumford, Todd, Higgs, & McIntosh, 2017), skills such as causal analysis, and forecasting, have been found to influence leader emergence and performance. Still other studies point to the importance of variables such as emotional regulation (Gooty, Connelly, Griffith, & Gupta, 2010), prosocial behavior (Kalshoven, Den Hartog, & De Hoogh, 2011) and goal setting (Neck, Nouri, & Godwin, 2003).

Although many variables influence leader emergence and performance, since the second World War, many studies have focused on the specific behaviors elicited by those who occupy leadership roles. For example, Fleishman and his colleagues (Fleishman 1953; Fleishman and Harris, 1962) have provided evidence which suggests that two key dimensions of leader behavior, initiating structure and consideration, are critical influences on people's performance in leadership roles. Somewhat later, Graen and his colleagues (Graen, Novak, & Sommerkamp, 1982; Scandura, & Graen, 1984) argued that positive social exchange behaviors evidenced in leader-follower interactions were the critical determinant of leader performance. Still more recent research by Liden and colleagues (Liden, Wayne, Liao, & Meuser, 2014; Hu, & Liden, 2011) has stressed the importance of behavior in leadership roles that involves service to others.

Of course, these are not the only models of leadership behavior that have been proposed over the last seventy years (Kim et al. 2019). The foregoing examples, however, underscore a key point. Over the last seventy years, students of leadership have largely focused on the

behavior of those who occupy leadership roles as the key vehicle for understanding performance. By the same token, studies of leader capacities (e.g. Mumford, Todd, Higgs, & McIntosh, 2017), leadership styles (e.g. Hunter, Cushenbery, Thoroughgood, Johnson, & Ligon, 2011), and leader personality (e.g. Grijalva, Harms, Newman, Gaddis, & Fraley, 2015) remind us that certain characteristics of the leader are also important influences on leader emergence and performance. In fact, Mumford, O'Connor, Clifton, Connelly, and Zaccaro (1993) found that certain characteristics of a person's life history were important influencers of leader emergence and performance—experiences such as, parental warmth, family exposure, and socioeconomic status (SES).

In fact, early studies of leader emergence and performance consistently found SES to be a critical influence of leader emergence and performance (Stogdill, 1948). Accordingly, our intent in the present study was threefold. First, we hoped to test whether leader SES was positively related to team performance. Second, and more critically, we hoped to examine the impact of leader SES was mediated through various types of leader behavior. Third, we hoped to test whether the strength of these relationships was moderated by certain conditions of task performance.

Socioeconomic status

Socioeconomic status emerged as a key concept in the social sciences as a result of qualitative studies conducted in the 1920's and 1930's (Tyler, 1965). Broadly speaking, SES was held to be reflected in a person's, or family's, social position with respect to the community in which they lived. Over the years, a variety of markers of an individual's or a family's SES have been identified, such as school attendance (private vs. public), dwelling size, number of books owned, etc. (Fussell, 1983). However, SES of either the individual, or the individual's family, is

most commonly assessed with respect to three key variables—household income, attained education level, and total income (National Center for Educational Statistics, 2008).

Socioeconomic status is of interest because it has been shown to predict a variety of outcomes in the course of people's lives. For example, Evans and Kim (2010) have found that socioeconomic status is positively related to health outcomes, in part, due to risk exposure. Bradley and Corwyn (2002) have found that child development differs as a function of SES such that upper status families encourage open exploration, autonomy, and acquisition of self-efficacy beliefs. Barger, Donoho, and Wayment (2009) have found that SES contributes to greater life-satisfaction due to the acquisition of more stable social relationships. Sirin (2005) and White (1982) both stress the strong positive impact of SES of the family on the academic achievement of children—indicating such relationships are often as strong as those resulting from academic achievement tests.

In keeping with these observations, socioeconomic status was found to be positively related to leader emergence. Hunter and Jordan (1939) found parental education and parental occupational status, two key markers of SES, were positively related to attaining leadership positions during college years. Similarly, Garrison (1933) found that attainment of leadership positions during high school was positively related to father's occupational status. The impact of SES on leadership emergence, however, is not limited to school settings. For example, Larson and Potter (1971) found that emergence into, or acquisition of, community leadership positions was positively related to family income. More recently, Reitan and Stenberg (2019) examined early-life developmental influences on peer nominations for a leadership role (e.g. party organizer) and appraisals of suitability as a military officer. Against both criteria it was found that family socioeconomic status was a powerful ($r \approx 0.40$) predictor of leadership emergence.

In keeping with these observations, Stogdill (1948), concluded that socioeconomic status is positively related to leader emergence. Research with regard to performance in leadership roles, however, is lacking. For example, evidence is not available indicating whether teams led by high SES leaders perform better than teams led by low SES leaders. By the same token, there is some reason to expect that SES would be positively related to performance in leadership roles. To begin, higher SES leaders typically have more, and more intense, education than low SES leaders. As a result, one would also expect higher status leaders to have more of the key cognitive skills, such as causal analysis, forecasting, and creative thinking (Mumford, Todd, Higgs, & McIntosh, 2017), found to contribute to leader performance. Moreover, higher SES gives people greater opportunity to enter leadership roles while providing a wider array of experiences in a wider variety of situations (Bradley & Corwyn, 2002). As a result of having richer experiences, and more relevant experiences bearing on leadership, one would expect that people coming from higher SES backgrounds to also have more experiential knowledge. Prior studies (e.g. Barrett, Vessey, & Mumford, 2011; Vessey, Barrett, & Mumford, 2011) have shown that the depth of relevant case-based, or experiential, knowledge is related to performance in leadership roles. Finally, performance in leadership roles requires interacting with others. Given that ability to form more stable relationships (Barger, Donoho, & Wayment, 2009), one would therefore expect people of higher SES to perform better in leadership roles. These observations, in turn, led to our first hypothesis.

Hypothesis one: People of higher socioeconomic status will perform better than people of lower socioeconomic status when leading others, resulting in better team performance.

Leader behaviors

Although knowledge, skills, and relationship quality all would lead one to expect higher status, as opposed to lower status, individuals to prove to be more effective performers in

leadership roles, the effect of SES on performance in leadership roles may not always be direct. Instead, it is possible that higher SES may give rise to certain behaviors commonly held to result in better performance in leadership roles. In fact, it is possible that SES is positively related to three key behaviors held to contribute to performance in leadership roles: 1) Initiating structure, 2) servant leadership, 3) leader-member exchange (LMX).

Fleishman (1953) introduced the concept of initiating structure as a key dimension of leader behavior. Structuring behaviors include actions such as assigning people specific tasks, insisting that informed decisions be made, criticizing poor work, and offering new approaches to problems. Followers describe leaders with respect to expression of these behaviors. Judge, Piccolo, and Illies (2004) conducted a meta-analysis of some 150 studies examining the relationship between leader initiating structure and three key criterion, leader performance, team performance, and leader effectiveness. They obtained corrected validities of 0.24 , 0.30, and 0.39 for job performance, team performance, and leader effectiveness, respectively. Thus, initiating structure does appear to contribute to leader performance.

Marta, Leritz, and Mumford (2005) have provided one potential explanation for these findings. In this study, 55 teams of 159 undergraduates were asked to adopt the role of consultants working for a failing automotive firm and formulate a turnaround plan. Plans were appraised by judges for quality, and originality. After completing their plans, team members were asked to nominate their leader. Before starting on their plans, all team members were asked to complete a measure of planning skill. It was found that teams providing the strongest turnaround plans had leaders who initiated structure. However, the viability of leader structuring behavior was found to depend on leader planning skills.

These observations are noteworthy because planning skill, and presumably initiating structure, may to some extent also depend on socioeconomic status. Link, Lennon, and Dohrenwend (1993) appraised SES and found that those of higher SES were more likely to enter occupational fields where planning was a key determinant of performance. Nurmi (1991) found that SES was positively related to future orientation and subsequent intensity of planning activities. Peretti-Watel, L'Haridon, and Seror (2013) found that planning horizon—timeframe—was positively related to SES. When one considers these findings in light of the impact of planning on initiating structure, the following hypothesis seemed indicated.

Hypothesis two: The impact of leader socioeconomic status on team performance will be mediated through leader initiating structure behaviors.

Initiating structure, however, is not the only behavioral attribute that might moderate the impact of SES on leader performance. Baltzell (1979), in a historic analysis of leadership in Boston and Philadelphia, concluded that higher SES families would induce an inclination to service as a result of commitment to the community. This service orientation, in turn, was held to give rise to outstanding leadership performance—for example, length of mentions in the Dictionary of American Biography. Liden, Wayne, Zhao, and Henderson (2008) sought to measure servant-oriented leader behaviors such as, encouragement to join community service organizations, stressing giving back to the community, being honest, and delegating responsibility. When 145 followers of 17 leaders were asked to describe their leader's behavior on these service items, it was found that service leadership was positively related to community citizenship, organizational commitment, and in-role performance. Irving and Longbotham (2007) also found a positive relationship between servant leadership and team effectiveness, while Jarmillo, Grisaffe, Chonko, and Roberts (2009) found servant leadership to be positively related

to individual level job performance. These findings, given the potential impact of SES on people's service orientation, suggest the following hypothesis.

Hypothesis three: The impact of leader socioeconomic status on team performance will be mediated through leader servant behaviors.

Service to others, and structuring, may not be the only behaviors of high-status individuals that could contribute to effective leadership. Status also provides people with resources—both social and fiscal (Campbell, Marsden, & Hurlbert, 1986). The availability of greater resources allows people to engage in helping behavior. In fact, Krause and Shaw (2000) have found that SES is positively related to people's willingness to engage in helping others. People's willingness to help others is noteworthy because helping behaviors result in more positive social exchange relationships (Neves & Caetano, 2006). The emergence of more positive social exchange relationships as a result of the helping behavior often exhibited by higher SES individuals is noteworthy because, positive exchange relationships between leaders and their followers have been shown to contribute to follower performance (Scandura & Schriesheim, 1994), as well as satisfaction with the leader, and organizational commitment (Liden & Maslyn, 1998). In fact, the leader-member exchange (LMX) measure of Graen and his colleagues (Graen, Novak, & Sommerkamp, 1982; Scandura & Graen, 1984) asks followers to appraise positive interpersonal exchange relationships with leaders through questions such as "I like my supervisor" and "My supervisor is fun to work with." More centrally, the impact of SES on helping behaviors and the development of positive exchange relationships points to the following hypothesis.

Hypothesis four: the impact of leader socioeconomic status on team performance will be mediated through positive exchange relationships (LMX).

Conditions of performance

The tasks that teams are asked to work on differ from each other in many ways. For example, team members may be working at remote locations (Joshi, Lazarova, & Liao, 2009). The tasks that team member are working on may also unfold over long or short timeframes (Jacobs & Jaques, 1991). Team tasks may differ with respect to the physical demands imposed on team members as well (DeChurch et al., 2011). Although team tasks differ from each other in a number of ways, two key variables are held to give rise to shifts in the demands made for both team performance and leader behaviors contributing to successful team performance: 1) complexity, and 2) risk.

Complexity

The tasks presented to teams differ substantially in their degree of complexity. Differences in task complexity are noteworthy because they imply shifts, or changes, in requisite leader behavior (Marion, 2008; Uhl-Bien, Marion, & McKelvey, 2007). In a series of studies Hunter, Bedell-Avers, and Mumford (2009) and Marcy and Mumford (2010) asked undergraduates to assume the role of a university president and work on a simulation exercise. Complexity was manipulated by changing the parameters of the simulation exercise to allow more or fewer departments, students, and student types (undergraduate, or undergraduate and graduate). As complexity increased, it was found that different types of leaders (charismatic, ideological, pragmatic) performed well, and different types of causal analysis were required by those occupying leadership roles.

More centrally, there is some reason to suspect that complexity might also moderate the relationship between socioeconomic leader behavior and performance. As complexity increases, followers will typically seek more direction from leaders (Yukl, 2011). Accordingly, under conditions of high complexity, leader structuring behavior should become more important and

higher SES contributing to leader structuring will prove of greater value. Complexity, however, also increases the stress evident in followers, and as a result, leader service and positive leader member exchange may also prove of greater value. And, leader SES contributing to greater service and positive leader member exchange should also prove important to performance, which leads to the following hypothesis.

> Hypothesis five: As complexity increases, socioeconomic status will have stronger impacts on leader structuring, service, and exchange behavior, and structuring, service, and exchange behavior will have stronger impacts on team performance.

Risk

In addition to complexity, risk is another condition of team performance which seems to result in shifts in requisite leader behavior if adequate team performance is to be observed. Broadly speaking, when team members perceive risk to themselves, or the team, they typically seek more structure from leaders (Bass & Bass, 2008; Yukl, 2011). In more recent studies, Barrett, Vessey, and Mumford (2011) and Vessey, Barrett, and Mumford (2011) manipulated threat as people in leadership roles attempted to formulate plans for solving an organizational problem. Threat was induced through emails noting organizational risk. And, it was found that threat required greater objectivity on the part of leaders in providing viable plans.

The need for greater objectivity, of course, also allows for more effective structuring of team activities. And, the need for more structuring behaviors suggests that SES might prove more important to structuring and team performance under conditions of high, as opposed to low, risk. In contrast, because people seek structure from leaders when they perceive risk, or threat, service behaviors and leader member exchange will prove less important, as will the impact of leader SES on service and exchange behavior. These observations led to our final hypotheses.

Hypothesis six: As risk increases, leader socioeconomic status will have stronger impacts on leader structuring behavior and team performance

Hypothesis seven: As risk increases, leader socioeconomic status will have weaker impacts on leader service and exchange behaviors, as well as subsequent team performance.

Method

Sample

The sample used to test these hypotheses consisted of 180 undergraduates drawn from a large Southwestern university. The 66 men and 114 women who agreed to participate in this study were recruited from undergraduate psychology courses providing extra credit for participation in experimental studies. Those seeking extra credit were asked to review a departmental website where a short, one paragraph, description of the available studies was provided. They then selected the study, or studies, in which they wanted to participate. The average age of those who agreed to participate in the present investigation was nineteen. Most sample members had a year or two of prior work experience. Their academic ability, as indicated by scores on the Academic Achievement Test, or the Scholastic Aptitude Test, lay a third of a standard deviation above the mean for those entering four-year institutions.

General Procedures

Participants were recruited to work on a business consulting task. When participants agreed to participate in the study, they were provided with a time and location for the study. Times and locations were structured to ensure that multiple participants would attend any particular session. In all, 48 groups, of three to five participants, were examined in the present study. The average size of the groups was 3.75, with a standard deviation of 0.76.

Participants were informed that they would be working as a team to solve a business consulting problem. The business consulting problem asked participants to formulate a turnaround plan for a failing automotive firm. After reading through background material describing the firm and the situation in which it found itself, participants were given one hour to formulate and craft a written document describing their plan.

Before starting work on the consulting task, participants were asked to complete a set of timed covariate measures. Participants were given half an hour to complete those measures. After completing all study tasks, participants were also asked to take a half hour to complete a set of untimed covariate measures.

Once teams had worked through the business consulting task and provided their written plan, participants were asked to display the randomly assigned participant identification number given to each of them at the onset of the session. Each participant stated their number. Subsequently, each participant was asked to think about the work done on the consulting task and nominate one team member as the leader by writing down that person's participant number. The experimenter reviewed those nominations and announced to the team the participant most frequently nominated as leader. It is of note that in the case of a tie, the experimenter selected the designated leader based on a coin toss. This situation only occurred in 2% of the sessions.

In the next half hour, participants, not including the designated leader, were asked to think about the leader's behavior as the team prepared its plan. Participants then described various aspects of the leader's behavior. As participants worked on completing the leadership measures, the designated leader was simply instructed to work on the untimed covariate measures.

Covariate Measures

Based on the observations of Antonakis, Simonton, and Wai (2020) the first control measure participants were asked to complete was a measure of verbal intelligence. This verbal intelligence measure was drawn from the Employee Aptitude Survey (EAS). The 30 items included in the EAS verbal reasoning measure present a set of facts bearing on a problem. People are asked to indicate whether a subsequent answer is true, false, or unknown given these facts. This verbal reasoning measure yields retest reliabilities above 0.80. Evidence bearing on the predictive and construct validity of this measure has been provided by Grimsley, Ruch, Warren and Ford (1985) and Ruch and Ruch (1983).

The second control measure participants were asked to complete was based on the findings of Zaccaro et al. (2015) indicating that divergent thinking skills are strongly related to leader performance. The divergent thinking measure participants completed was the Merrifield, Guilford, Christensen, and Frick (1962) consequences test. The consequences measure asks people to generate ideas reflecting potential outcomes of unlikely events such as "What would be the consequences if people no longer wanted or needed sleep?" When coded for fluency, or the number of consequences generated, this measure yields internal consistency coefficients above 0.70. Vincent, Decker, and Mumford (2002) have provided evidence for the construct and predictive validity of this measure in accounting for leader performance.

The third timed covariate measure was intended to control for leadership style. The measure, drawn from Bedell-Avers, Hunter, and Mumford (2008), assesses preferences for a charismatic, ideological, or pragmatic leadership style. On this 12-item measure, each item presents three one-paragraph summaries of a speech given by a charismatic, ideological, or pragmatic leader. People are asked to indicate the speech they believe to me most similar to

themselves. This measure yields split-half reliabilities in the low 0.80s. Bedell-Avers, Hunter, and Mumford (2008) have provided evidence for the validity of this measure.

The first untimed measure that participants were asked to complete was a demographic information form. In addition, because the task at hand required formation of a consulting plan the findings of Watts, Steele, and Song (2017) indicated that Cacioppo, Petty and Kao's (1984) need for cognition measure should be used as a control. The need for cognition scale presents 18 self-report items where people are asked to describe, using a five-point scale, typical behavior with respect to intellectually challenging tasks. For example, people are asked to appraise the statement "The notion of abstract thinking is appealing to me." This scale yields internal consistency coefficients in the 0.80s. Cacioppo and Petty (1982) and Watts, Steele, and Song (2017) have provided evidence for the construct validity of this scale.

In addition, because the task at hand required planning, participants were asked to complete Marta, Leritz, and Mumford's (2005) measure of planning skills. On this measure, people are presented with 15 case abstracts describing incidents of business leader planning. They are then asked to answer a series of five questions with eight to twelve potential responses. Participants are asked to select their two to four preferred options, where response options were structured to reflect key planning skills (e.g. forecasting, identification of restrictions, and identification of key causes). When scored for overall planning skill, this measure yields split half reliabilities above 0.80. Marta Lertiz, and Mumford (2005) have provided evidence for the predictive validity of this measure in accounting for planning performance.

The final untimed control measure participants were asked to complete was intended to provide an omnibus assessment of personality. Accordingly, participants were asked to complete Goldberg's (1992) adjective checklist. This personality inventory provides scales measuring

neuroticism, openness, extraversion, agreeableness, and conscientiousness. People are asked to indicate on a nine-point Likert scale, the extent to which 100 adjectives such as extraverted, shy, and active, describe them. The resulting scales for measuring neuroticism, openness, extraversion, agreeableness, and conscientiousness yield internal consistency coefficients above 0.80. Goldberg (1992) has provided evidence for the validity of these scales.

Socioeconomic Status

The measure of socioeconomic status employed was the last measure administered in the battery of untimed covariates. Based on the procedures routinely used to measure socioeconomic status (e.g. Bradley and Corwyn, 2002; Hunter and Jordan, 1939; Reitan and Sternberg, 2019), participants were asked to indicate parent's education level—coded 0 (high school) to 5 (doctoral degree), parent's occupation—coded using Connelly, Gayle, and Lambert's (2016) occupational status table—coded 1 (managerial, administrative, and professional occupations) to 3 (routine and manual occupations), and parent's annual income. Standard scores were obtained for each scale. Standard scores were summed to obtain an overall measure of family socioeconomic status.

Leadership Measures

Initiating structure was measured using 20 items included in Fleishman's (1953) Supervisory Descriptive Questionnaire (SBD). On these items people are asked to indicate how frequently a leader evidenced certain behavior using a five-point scale. Sample items are "Talks about how much should be done," "assigns people to particular tasks," and "emphasizes the meeting of deadlines." This 20 item scale yields internal consistency coefficients above 0.80. Judge, Piccolo, and Illies (2004) have provided evidence for the predictive validity of this scale in accounting for performance in leadership roles.

The second leadership measure, drawn from Liden, Wayne, Zhao, and Henderson (2008), examines servant leadership. The 28 items included in this scale ask people to indicate the extent to which they agree, on a seven-point scale, as to whether a behavioral statement describes their leader. All items focused on behaviors characteristic of servant leaders such as "He/she emphasizes the importance of giving back to the community" or "He/she takes time to talk to others on a personal level." The resulting scale for measuring servant leadership yields internal consistency coefficients above 0.80. Hu and Liden (2011) and Liden, Wayne, and Liao, (2014) have provided evidence for the predictive validity of this scale with respect to leader performance in various occupational settings.

The final leadership measure participants were asked to complete was Graen's (Graen, Novak, & Sommerkamp, 1982; Scandura, Graen, & Novak, 1986) measure of leader-member exchange. This seven-item scale asks people to indicate the extent to which they believe their leaders would evidence certain behaviors on a five-point scale. Typical items ask, "How well does your leader recognize your potential?" and "How would you characterize your working relationship with your leader?" This seven-item scale yields internal consistency coefficients above 0.70. Liden and Maslyn (1998) and Graen and Uhl-Bien (1995) have provided evidence for the validity of this measure.

All three leadership measures were administered at the start of the packet of untimed "covariate" measures immediately after the completion of their consulting plan and nomination of a team leader. All team member's, excluding the nominated leader, scores on each measure were averaged to obtain a final score for the team leader on initiating structure, servant leadership and leader-member exchange.

Task and Manipulation

The experimental task employed in the present study was drawn from Mart, Leritz, and Mumford (2005). This task was employed, in part, because undergraduates found it engaging in prior studies. This task was also employed because it has been found to allow leaders to emerge. Finally, Marta, Leritz, and Mumford (2005) have provided evidence indicating that emergence of leaders on this task is indicative of performance.

On this task, participants are asked to assume the role of consultants working as a team to help a car company, Eagle Car, address issues with market share and profitability. Specifically, they were asked to provide a plan describing the key actions they would take to help the firm address these problems. These recommended actions were to be provided in the form of a two to three-page written summary which described their plan and recommendations. It is of note that no leader was designated before groups started work on their plans.

Prior to starting work, all participants were asked to read a through a two- or three-page scenario describing the nature of the firm and the problems it was confronting. This descriptive material was drawn from prior case studies examining Harley Davidson and touched on the history of the firm, its product line, the market for its cars, and competitors. A description of the firm's strengths and weaknesses was also provided. With respect to strengths, dealer networks, branding, and customer loyalty were noted as potential assets. With respect to weaknesses, product quality, and innovation were noted.

The complexity manipulation was embedded in the description of the Eagle Car company that participants were asked to read. In the high complexity condition, additional background information and additional restrictions were imposed, while a detailed description of competitor product line was provided. Specifically, it was noted 1) the Eagle Car company also manufactures small trucks, 2) Many of the firm's employees were inexperienced, and 3)

competitors had made progress developing electric cars and self-driving trucks. In the low complexity condition, this information was not included.

The risk manipulation was included in the form of a paragraph at the end of the descriptive information. “Eagle car needs to take steps to turn the company around. The current issues faced by the company pose a serious threat. If the correct steps aren’t taken, Eagle Car company will go under and thousands of employees will lose their jobs, affecting them and their families. Not to mention the millions of dollars of potential revenue lost because of inability to sell vehicles already built.” This material was not presented in the low risk condition.

Performance Measures

To evaluate the performance of the group on their turnaround plans a panel of three judges, all doctoral students in industrial and organizational psychology, were asked to read through each plan and rate the plans for quality, originality, and elegance using a set of benchmarked scales (Redmond, Mumford, & Teach, 1993). Quality was defined as a complete, coherent, useful solution. Originality was defined as an unexpected, elaborative solution. Elegance was defined as a clever, refined, solution, where solution elements flowed well together. These plan attributes were used to appraise groups turnaround plans based on previous work by Christiaans (2002) and Marta, Lertiz, and Mumford (2005). Figures 1-3 illustrate the quality, originality, and elegance rating scales.

To formulate these rating scales, three judges, again doctoral students in industrial and organizational psychology, were asked to review a sample of the turnaround plans produced. They were then asked to rate these plans, on a five-point scale, using the operational definitions for quality, originality, and elegance provided above. Those plans which were rated, on average, near the high and low scale points, and which displayed low standard deviations, were then selected as anchors, and the key features of the plans were abstracted.

Subsequently, three judges, again doctoral students in industrial and organizational psychology, were asked to appraise all turnaround plans produced. Prior to making those ratings, all judges were required to complete a two-hour training program. Initially, judges were familiarized with the consulting task and the ratings scales. Judges were then asked to rate a set of sample plans, and then discuss and resolve any discrepancies in their ratings. Following the training, the interjudge agreement coefficients obtained for evaluations of quality, originality, and elegance were 0.72, 0.75, and 0.78, respectively.

Analyses

Group leaders were identified, and their overall family socioeconomic status was determined, subsequently, median splits were conducted to score the socioeconomic status, initiating structure, servant leadership, and leader-member exchange measures. Using these median splits, a series of analysis of covariance (ANCOVA) tests were conducted, where a covariate was retained only if it proved significant at the 0.05 level. First, the impact of leadership, initiating structure, servant, and leader-member exchange, on solution quality, originality, and elegance was examined. Second, the impact of socioeconomic status on solution quality, originality, and elegance was examined. Third, the effects of complexity and risk on quality, originality, and elegance were examined. Fourth, the effects of each leadership behavior and socioeconomic status on quality, originality, and elegance were examined. Fifth, the effects of each leadership behavior, socioeconomic status, and risk or complexity on quality, originality, and elegance were examined.

Results

Table 1 presents the correlations among the leadership variables, socioeconomic status, controls, and performance. Note that behavioral variables are with respect to the participant selected as leader. As may be seen, leader socioeconomic status was positively related to

initiating structure (r = 0.25) but negatively related to planning skill (r = -0.28). Servant leadership and leader-member exchange evidenced a strong (r = 0.62) positive relationship, as would be expected given prior work. However, leader-member exchange (r = 0.06) was unrelated to initiating structure, but a moderate positive relationship (r = 0.40) was observed between servant leadership and initiating structure. Thus, the relationships observed among the leadership measures point to their construct validity.

In keeping with this observation, quality and originality appraisals yielded the sizeable positive correlation (r = 0.79) typically observed when people are asked to solve complex, novel, ill-defined problems. The correlations of quality (r = 0.75) and originality (r = 0.52) with elegance were somewhat smaller, but still sizeable. More centrally, originality (r = 0.33), quality (r = 0.22), and elegance (r = 0.21) were found to be positively related to divergent thinking—again, a finding obtained in earlier studies (e.g. Vincent, Decker, and Mumford, 2002). Group size, due to feedback, was also positively related to solution quality (r = 0.13), originality (r = 0.16), and elegance (r = 0.23). Thus, some evidence is available for the validity of the leader performance task, and appraisals of task performance, employed in the present study.

Table 2 presents the effect of initiating structure, servant leadership, and leader member exchange on the plans produced by the teams. Initiating structure and servant leadership had no significant effects on the quality, originality, and elegance of the solutions generated by the teams after taking into account requisite controls. Similarly, leader-member exchange had no significant effects on the quality and originality of the turnaround plans. However, a marginally significant ($F(1,43) = 3.67$, $p < 0.10$) was obtained between leader-member exchange and solution elegance. Interestingly, inspection of the cell means indicated that more elegant plans were obtained when team leaders had less (M = 2.54, SE = 0.16) as opposed to more (M = 2.10,

SE = 0.15) positive exchange relationships—a findings suggesting that leader interpersonal demands may, at times, contribute to the production of more elegant products.

Table three presents the effects of leader socioeconomic status on the quality, originality, and elegance of team turnaround plans. As may be seen, unto itself leader socioeconomic status has no significant effects on any of the performance criterion.

Table four presents the effects of leader socioeconomic status and leader behavior on the quality, originality and elegance of team turnaround plans. No significant effects were obtained for servant leader behaviors, or the interactions of servant leadership behavior with socioeconomic status. In the case of initiating structure, again, no significant effects were obtained for the quality and originality of team plans. However, a marginally significant ($F(1,43) = 3.02$, $p < 0.10$) interaction was obtained between leader socioeconomic status and initiating structure for plan elegance. Inspection of the cell means indicated that the strongest turnaround plans were obtained when leaders had high socioeconomic status and initiated structure (*M* = 2.53, *SE* = 0.21), and when leaders had low socioeconomic status, but did not initiate structure (*M* = 2.43, *SE* = 0.22), in comparison to all other conditions (*M* = 2.08, *SE* = 0.24). Apparently, exercise of structuring behavior requires socioeconomic status for people to accept leader direction and if status is inadequate, then structuring behaviors should not occur if elegant plans are to be obtained.

In the case of leader member exchange, neither socioeconomic status nor its interaction with exchange had significant effects. However, leader-member exchange did have a marginally significant ($F(1,42) = 3.83$, $p < 0.10$) main effect with respect to solution elegance. It was found that more elegant solutions emerged when exchange relationships were less (*M* = 2.56, *SE* =

0.16) as opposed to more (M = 2.10, SE = 0.16) positive. Apparently, a positive exchange with a leader does not always contribute to the production of more elegant solutions.

The question that arises at this juncture is, does leader socioeconomic status and leader behavior become more or less important under certain conditions? Table 5 presents the results obtained when the effects of the complexity manipulation and its interaction with leader socioeconomic status and leader behaviors were examined. As may be seen, the complexity manipulation had no effects with respect to the quality, originality, and elegance of turnaround plans when socioeconomic status and initiating structure, and socioeconomic status and servant behaviors were examined. In the case of leader-member exchange, again no significant effects with respect to the quality and originality of the plans. However, some significant effects did emerge with respect to solution elegance.

A significant main effect (F(1,38) = 4.77, $p < 0.05$) was again obtained for leader-member exchange with low (M = 2.54, SE = 0.15) as opposed to high (M = 2.05, SE = 0.14) exchange relationships resulting in the production of more elegant turnaround plans. A marginally significant main effect (F(1,38) = 3.14, $p < 0.10$) was also obtained for leader socioeconomic status with more elegant plans being produced in teams whose leaders were of high socioeconomic status (M = 2.49, SE = 0.15) as opposed to low socioeconomic status (M = 2.10, SE = 0.14).

A significant three-way interaction also emerged between leader socioeconomic status, leader-member exchange, and complexity (F(2,38) = 4.92, $p < 0.05$). Inspection of cell means indicated that when complexity was high, leader socioeconomic status was high, and exchange relationships were less positive (M = 3.23, SE = 0.29), the most elegant solutions were obtained in comparison to all other conditions (M = 2.16, SE = 0.29) Apparently, there is less need for

high socioeconomic status leaders to have positive exchange relationships when complexity is high, perhaps because people prefer high status leaders under complex conditions regardless of exchange relationships.

Table six presents the results obtained when the effects of risk were examined in relation to leader socioeconomic status and leader behaviors. A marginally significant ($F(1,37) = 3.27$, $p < 0.10$) interaction was observed between initiating structure and risk, with respect to the quality of the plans. When risk was present, more initiating structure ($M = 2.71$, $SE = 0.24$) was better than less ($M = 2.08$, $SE = 0.25$). When no risk was evident, less structuring behavior ($M = 3.17$, $SE = 0.30$) was more beneficial than greater structuring behaviors ($M = 2.74$, $SE = 0.24$).

For the originality of turnaround plans, the marginally significant main effect ($F(1,39) = 3.25$, $p < 0.10$) for risk indicated, unsurprisingly, that more original plans were obtained under low ($M = 2.82$, $SE = 0.23$) as opposed to high ($M = 2.26$, $SE = 0.20$) risk conditions. The marginally significant main effect ($F(1,39) = 3.17$, $p < 0.10$) for initiating structure indicated that more original plans were directed by leaders who induced less ($M = 2.82$, $SE = 0.22$) as opposed to more ($M = 2.27$, $SE = 0.21$) structure. The marginally significant interaction ($F(1,39) = 2.99$, $p < 0.10$) between initiating structure and risk indicated it was especially useful, with respect to originality, for leaders not to induce structure when risk was low ($M = 3.36$, $SE = 0.35$) as opposed to all other conditions ($M = 2.71$, $SE = 0.29$).

In examining the effects obtained from servant leadership, it was found that risk had a significant ($F(1,40) = 5.78$, $p < 0.05$) main effect on solution quality with, higher quality solutions emerging when risk was not present ($M = 3.13$, $SE = 0.20$) than when it was present ($M = 2.47$, $SE = 0.17$). Additionally, the marginally significant ($F(1,40) = 2.84$, $p < 0.10$) interaction between servant leadership and risk indicted that the highest quality plans were provided when

risk was low and leaders evidenced little servant behaviors (M = 3.47, SE = 0.34) in comparison to all other conditions (M = 2.58, SE = 0.24). In the case of originality of turnaround plans, the significant main effect ($F(1,39) = 5.62$, $p < 0.05$) effect obtained for the risk manipulation indicated, again, that more original plans were obtained when conditions of low (M = 3.06, SE = 0.25) as opposed to high (M = 2.26, SE = 0.21) risk were evident. For elegance a marginally significant ($F(1,39) = 4.02$, $p < 0.10$) interaction was obtained between servant leadership and risk. Inspection of the cell means indicates that when there was no risk, servant leadership should be low (M = 2.79, SE = 0.33) rather than high (M = 2.03, SE = 0.21). When risk was present servant leadership should be high (M = 2.52, SE = 0.27) rather than low (M = 2.23, SE = 0.20).

With regard to leader-member exchange, it was found that risk had a significant main effect ($F(1,38) = 4.74$, $p < 0.05$) for solution quality, and a significant main effect ($F(1,38) = 3.17$, $p < 0.10$) for solution originality. Inspection of cell means indicated higher quality (M = 2.97, SE = 0.17 versus M = 2.45, SE = 0.16) and more original (M = 2.79, SE = 0.22 versus M = 2.24, SE = 0.20) plans were obtained when there was no risk as opposed to when there was risk present. The marginally significant ($F(1,38) = 2.86$, $p < 0.10$) main effect obtained for leader-member exchange and solution quality, indicated that higher quality solutions were obtained when leader-member exchange was of less (M = 2.92, SE = 0.17) as opposed to higher (M = 2.51, SE = 0.16) quality. Similarly, for solution elegance, the marginally significant ($F(1,38) = 3.36$, $p < 0.10$) main effect for leader-member exchange indicated that more elegant plans were received when exchange relationships were poor (M = 2.56, SE = 0.17) as opposed to when they were good (M = 2.10, SE = 0.16).

Discussion

Before turning to the broader implications of the present study, certain limitations should be noted. To begin, it should be recognized that the present study was based on a classic

experimental paradigm. As a result, it is open to question whether our findings can be extended to those actually working on a job where they have a more extensive, longer-term contact with the leader.

The findings obtained in the present study emerged as team members worked on a single task. Although this task, drawn from Marta, Leritz and Mumford (2005), was selected because it had demonstrated validity in prior studies, it is also possible that somewhat different findings might have emerged if another experimental task had been employed. Thus, evidence indicating the generalizability of our findings across multiple additional team performance tasks is needed.

It should also be recognized that team performance in formulating these turnaround plans was assessed based on the appraisal of external judges with respect to the apparent quality, originality, and elegance of the plans produced by each team. Of course, prior studies (e.g. Besemer & O'Quin, 1998; Christiaans, 2002) have shown quality, originality, and elegance appraisals provide an appropriate basis for appraising performance on tasks such as the corporate turnaround plan task employed in the present study. It remains to be seen if similar findings would have emerged if different performance criteria—for example, team conflict, had been utilized. Along related lines, it is possible team members might have rather different appraisals of their performance than trained, external, judges—although the objectivity of external judges does contribute to the availability of performance appraisals evidencing some validity.

Finally, the present study employed only three markers of socioeconomic status: parent's income, educations, and occupations. Although these are the three most common markers of socioeconomic status (e.g. Barger, Donoho, & Wayment, 2009), it should be recognized that a wide variety of markers of socioeconomic status have been proposed (Fussell, 1983). As a result, it is possible that somewhat different results might have emerged if a different, or more

extensive, set of markers of socioeconomic status had been employed. Relatedly, the sample utilized in this study consisted of undergraduate students at a large southwestern university. Given this fact, there may be a range restriction of the participant socioeconomic statuses. In other words, very low and very high socioeconomic statuses may not be encountered in our sample.

It should also be noted that the markers of socioeconomic status employed in the present effort, referred to family socioeconomic status. In studies conducted in educational settings, of course, the key concern is always family socioeconomic status. By the same token, however, it should be recognized that the findings obtained in this study do not speak to the leaders own, personal, socioeconomic status.

Even bearing these caveats in mind, we do believe the present study has some noteworthy implications. To begin, leader behaviors did not have much effect on the performance of teams in formulating turnaround plans. Of course, this finding is not unique. Prior studies (e.g. Bass & Bass, 2008; Yukl, 2011), in fact, indicate that the utility of leader behaviors, in a certain way, depends on the conditions in which they find themselves. In the present study it was found that risk indicated some noteworthy effects on the value of certain leader behaviors. Typically, stronger turnaround plans were obtained under conditions of low risk. This finding is consistent with many studies of high-level performance, as risk acts to undermine full exploration of solution options (Finke, Ward, & Smith, 1992).

More centrally, initiating structure on the part of leaders and servant leadership behavior by leaders varied as a function of the risk that team members felt themselves to be under. When risk was high, the strongest performance resulted when the leaders initiated structure *and* acted as servant leaders. When risk was low, however initiating structure and service to followers was

of limited value. Thus, leader behavior is valued when teams confront risk and crisis (DeChurch et al., 2011). Complexity, however, didn't exert such consistent effects with respect to leader behaviors and the ways in which leader behavior shaped team performance. Negative exchange relationships, however, apparently had some value under conditions of complexity— perhaps by focusing followers on the task at hand.

Although these findings are of some interest, our focus in the present study was on how socioeconomic status of the teams' leader impacted leader behavior, team performance, or interacted with leader behavior in shaping team performance. Unto itself, socioeconomic status had no effect on team performance with respect to the production of viable turnaround plans. With the exception of an interaction between socioeconomic status and initiating structure, an interaction indicating that higher socioeconomic status contributed to the production of more elegant plans when leaders initiated structure, socioeconomic status did not interact with leader behavior either. Additionally, the relationships were not mediated by risk or complexity. Thus, our hypotheses with respect to the impact of leader socioeconomic status on team performance were not confirmed.

This "lack of findings" may seem surprising, given that the findings obtained for socioeconomic status in earlier studies of leadership (Stogdill, 1948). Here, it should be noted that the majority of those studies focused on leader emergence as opposed to leader performance—which was the focus of the present study. Thus, socioeconomic status may influence people's access to leadership roles. Once people have attained a leadership role, socioeconomic status has little impact on their behaviors as a leader or their performance in that role.

In a practical sense, this non-finding is of some real importance. It implies, regardless of socioeconomic background, people can perform well in leadership roles if access to leadership roles is provided. Thus, the critical problem confronting those seeking to develop leadership potential is to ensure access to leadership positions—leader emergence. Once people have attained a leadership position, however, performance is not impacted strongly by socioeconomic status. More broadly, these findings underscore the need for leadership researchers to carefully distinguish between emergence and performance when drawing conclusions about how various variables influence leadership. We hope the present study serves as a reminder that access to leadership positions and performance in those positions should be treated as distinct phenomenon.

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Table 1.
Correlations

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Leader SES	-0.31	3.72	1.00																	
2. Age	18.90	0.73	-0.36*	1.00																
3. Group size	3.75	0.76	0.10	-0.08	1.00															
4. LMX	0.00	1.00	0.16	-0.19	0.11	1.00														
5. Servant Leadership	0.00	1.00	0.11	0.05	-0.01	0.62**	1.00													
6. Initiating Structure	0.00	1.00	0.25	-0.02	-0.02	0.06	0.39**	1.00												
7. Intelligence	9.72	3.89	-0.08	0.02	0.09	0.24	-0.06	-0.13	1.00											
8. Divergent Thinking	6.07	1.01	0.16	-0.19	-0.04	0.06	-0.04	0.04	0.19	1.00										
9. Planning Skill	9.76	0.70	-0.28	0.26	-0.12	0.03	0.08	-0.05	0.17	-0.02	1.00									
10. Need for Cognition	3.42	0.38	-0.09	0.22	-0.15	0.11	-0.06	0.10	0.22	-0.04	0.28*	1.00								
11. Extraversion	118.91	11.88	-0.01	0.24	-0.08	0.15	0.03	-0.08	0.07	0.32*	0.11	0.18	1.00							
12. Agreeableness	146.57	8.61	-0.03	-0.10	0.00	0.39**	0.31*	0.08	0.13	0.09	0.11	0.01	0.44**	1.00						
13. Conscientiousness	132.28	12.07	-0.16	0.10	-0.07	0.32*	0.24	0.02	0.00	0.10	0.15	0.27	0.28*	0.48**	1.00					
14. Neuroticism	97.25	9.98	-0.15	0.12	-0.22	0.00	-0.16	-0.05	0.19	-0.22	0.20	0.12	0.29*	0.23	0.12	1.00				
15. Openness	131.60	9.16	-0.17	0.16	-0.01	0.25	0.13	0.18	0.10	0.05	0.04	0.50**	0.17	0.20	0.36*	0.04	1.00			
16. Quality	2.69	0.87	0.09	-0.06	0.13	-0.02	0.06	0.04	0.12	0.22	-0.08	0.12	0.27	0.09	0.24	0.08	-0.03	1.00		
17. Originality	2.52	1.11	0.07	-0.02	0.16	-0.04	-0.03	-0.06	0.08	0.30*	0.03	0.06	0.24	0.01	0.13	-0.03	0.04	0.79**	1.00	
18. Elegance	2.31	0.81	0.08	-0.21	0.23	0.00	-0.03	-0.01	0.24	0.21	-0.06	0.03	0.06	-0.04	0.23	-0.13	-0.01	0.74**	0.51**	1.00

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table 2

Effects of leadership behaviors on solution quality, originality, and elegance

	Quality			Originality			Elegance		
	F	Df	p	F	Df	p	F	Df	p
Initiating structure									
Divergent thinking	-	-	-	5.89**	1	0.02	-	-	-
Conscientiousness	-	-	-	-	-	-	5.26*	1	0.10
Main effects	0.25	1	0.87	2.32	1	0.13	0.62	1	0.43
Servant leadership									
Main effects	0.03	1	0.86	0.18	1	0.66	1.01	1	0.31
LMX									
Divergent thinking	-	-	-	6.33**	1	0.02	-	-	-
Conscientiousness	-	-	-	-	-	-	4.98**	1	0.03
Intelligence	-	-	-	-	-	-	6.26**	1	0.02
Main effects	1.69	1	0.20	2.01	1	0.16	3.67*	1	0.06

Note: F = F-ratio, Df = Degrees of freedom, p = significance level.

*$p < 0.10$, **$p < 0.05$.

Table 3

Effects of leader socioeconomic status solution quality, originality, and elegance

	Quality			Originality			Elegance		
	F	Df	p	F	Df	p	F	Df	p
Divergent thinking	-	-	-	5.72**	1	0.02	-	-	-
Leader SES	0.44	1	0.50	0.33	1	0.57	1.03	1	0.32

Note: F = F-ratio, Df = Degrees of freedom, p = significance level.

** $p < 0.05$.

Table 4

Effects of socioeconomic status and leader behavior on solution quality, originality, and elegance

	Quality			Originality			Elegance		
	F	Df	p	F	Df	p	F	Df	p
Initiating structure									
Divergent thinking	-	-	-	5.92*	1	0.09	-	-	-
Initiating structure	0.01	1	0.92	2.54	1	0.11	0.07	1	0.79
SES	0.33	1	0.56	0.54	1	0.46	0.02	1	0.87
SES by initiating structure	1.51	1	0.22	0.97	1	0.33	3.02*	1	0.08
Servant leadership									
Divergent thinking	-	-	-	5.33	1	0.26	-	-	-
Group size	-	-	-	-	-	-	4.05**	1	0.05
Servant leadership	016	1	0.68	0.00	1	0.96	1.49	1	0.22
SES	0.09	1	0.75	0.31	1	0.57	0.24	1	0.62
SES by servant leadership	0.07	1	0.78	0.01	1	0.91	0.87	1	0.35
LMX									
Extraversion	4.51**	1	0.03	-	-	-	-	-	-
Divergent thinking	-	-	-	5.54**	1	0.02	-	-	-
Conscientiousness	-	-	-	-	-	-	5.86**	1	0.02
Intelligence	-	-	-	-	-	-	4.30**	1	0.04
LMX	1.56	1	0.21	2.16	1	0.14	3.83*	1	0.05
SES	0.77	1	0.38	0.53	1	0.46	2.20	1	0.14
SES by LMX	0.18	1	0.67	0.36	1	0.55	1.22	1	0.27

Note: F = F-ratio, Df = Degrees of freedom, p = significance level.

*$p < 0.10$, **$p < 0.05$.

Table 5

Effects of socioeconomic status and leader behavior, and complexity on solution quality, originality, and elegance

	Quality			Originality			Elegance		
	F	Df	p	F	Df	p	F	Df	p
Initiating structure									
Divergent thinking	-	-	-	5.31**	1	0.02	-	-	-
Initiating structure	0.04	1	0.83	2.21	1	0.14	0.00	1	0.98
SES	0.02	1	0.88	0.32	1	0.57	0.02	1	0.87
Complexity	0.14	1	0.70	0.70	1	0.40	0.02	1	0.88
SES by Complexity	0.68	1	0.41	0.35	1	0.55	0.88	1	0.35
Initiating structure by Complexity	1.19	1	0.28	0.00	1	0.94	0.89	1	0.34
Initiating structure by SES by Complexity	0.73	1	0.48	0.68	1	0.51	0.75	1	0.47
Servant leadership									
Divergent thinking	-	-	-	9.09**	1	0.00	-	-	-
Extraversion	6.25**	1	0.01	-	-	-	-	-	-
Group size	-	-	-	-	-	-	4.89**	1	0.03
Servant leadership	0.00	1	0.95	0.11	1	0.73	1.88	1	0.17
SES	0.94	1	0.33	1.15	1	0.28	0.16	1	0.69
Complexity	0.37	1	0.54	1.34	1	0.25	0.70	1	0.40
SES by Complexity	2.20	1	0.14	0.46	1	0.49	1.51	1	0.22
Servant leadership by Complexity	2.81	1	0.10	2.19	1	0.14	0.25	1	0.61
Servant leadership by SES by Complexity	0.74	1	0.48	1.360	1	0.26	0.24	1	0.78
LMX									
Divergent thinking	-	-	-	5.68**	1	0.02	-	-	-
Extraversion	5.24**	1	0.02	-	-	-	-	-	-
Conscientiousness	-	-	-	-	-	-	9.48**	1	0.00
Intelligence	-	-	-	-	-	-	8.35**	1	0.00
LMX	1.10	1	0.30	1.70	1	0.19	4.77**	1	0.03
SES	0.56	1	0.45	0.40	1	0.53	3.14*	1	0.08
Complexity	0.82	1	0.36	0.32	1	0.57	0.09	1	0.76
SES by Complexity	1.52	1	0.22	0.26	1	0.61	2.36	1	0.13
LMX by Complexity	0.30	1	0.58	0.95	1	0.33	0.15	1	0.69
LMX by SES by Complexity	1.09	1	0.34	0.88	1	0.42	4.92**	1	0.01

Note: F = F-ratio, Df = Degrees of freedom, p = significance level.

*$p < 0.10$, **$p < 0.05$.

Table 6

Effects of socioeconomic status and leader behavior, and risk on solution quality, originality, and elegance

	Quality			Originality			Elegance		
	F	Df	p	F	Df	p	F	Df	p
Initiating structure									
Divergent thinking	-	-	-	5.26**	1	0.02	-	-	-
Initiating structure	0.18	1	0.67	3.17*	1	0.08	0.02	1	0.87
SES	1.52	1	0.22	1.16	1	0.28	0.24	1	0.62
Risk	4.60**	1	0.03	3.25*	1	0.07	0.87	1	0.35
SES by risk	0.50	1	0.48	0.09	1	0.76	0.07	1	0.78
Initiating structure by risk	3.27*	1	0.07	2.99*	1	0.09	0.36	1	0.55
Initiating structure by SES by risk	0.73	1	0.48	0.20	1	0.81	1.53	1	0.22
Servant leadership									
Divergent thinking	-	-	-	4.52**	1	0.04	-	-	-
Servant leadership	0.62	1	0.43	1.52	1	0.22	0.80	1	0.37
SES	0.21	1	0.64	0.08	1	0.76	0.01	1	0.91
Risk	5.78**	1	0.02	5.62**	1	0.02	0.02	1	0.88
SES by risk	2.36	1	0.13	2.54	1	0.11	0.87	1	0.35
Servant leadership by risk	2.84*	1	0.09	1.72	1	0.19	4.02*	1	0.05
Servant leadership by SES by risk	0.98	1	0.38	0.85	1	0.43	0.58	1	0.56
LMX									
Divergent thinking	-	-	-	5.62**	1	0.02	-	-	-
Conscientiousness	-	-	-	-	-	-	5.32**	1	0.02
LMX	2.86*	1	0.09	2.25	1	0.14	3.36*	1	0.07
SES	1.23	1	0.27	0.26	1	0.61	2.04	1	0.16
Risk	4.74**	1	0.03	3.17*	1	0.08	0.01	1	0.94
SES by risk	0.59	1	0.44	0.98	1	0.32	0.01	1	0.89
LMX by risk	1.60	1	0.21	0.72	1	0.40	0.01	1	0.91
LMX by SES by risk	0.46	1	0.63	0.26	1	0.76	0.60	1	0.54

Note: F = F-ratio, Df = Degrees of freedom, p = significance level.

*$p < 0.10$, **$p < 0.05$.

Figure 1
Quality rating scale

Rating Level	Benchmark example
1	The Eagle Car Company will hold a press conference where we will address the current manufacturing and quality problems. We will present the solutions to these problems, warranties, and recalls on these vehicles. Once these problems are solved, The Eagle Car Company will develop a new commercial for advertisement. Our team is going to hire better workers to replace the workers who knew about these issues.
3	The Eagle Car company has a very strong dealership network and most people respect the company, so they should not change the dealership. The company should focus more on making the cars with better quality, instead of focusing on just making the car because most other companies can do the same. The Eagle car company could also expand their dealership across the world and not just the United States. The workers working at the dealership could also talk to their customers about what they could improve about the company, doing this would make the customers happier, meaning that they actually care about. The company could do more research about the other companies and figure out what they could do better for their own company. The company could also take the cars that they are not selling and lower the price and they could say that they have interesting features.
5	Starting as soon as possible it is necessary for the company to evaluate its 4000 employees. The company should get rid of those who are not actively working on innovating or are the least productive at constructing cars. The company's survivability depends on those more active workers and should devote more resources to those who are able to work longer and harder, likely firing more part-time workers. For those remaining, wagers could be increased as well as further training for more reliable and advanced cars that can compete with competitors. The Eagle Car Company should close its less productive branches to maximize profit. A select team of roughly four to five in the company will be chosen to hire engineers and designers to create higher quality vehicles, some of which will plunge the company into the realm of self-driving and electric cars. However, that will take time to come to fruition, so other teams will remain focused on regular gas-powered vehicles with some higher quality than other to enable profit short-term before advances are made. As time progresses and the company recovers, automation of the building process can begin, replacing some of the less important remaining workers to lower costs. Some workers of course would remain to aid in construction, but overall costs would decrease after initial installation. Once the company is sufficiently stable our focus can shift slightly toward working with customers for maximum satisfaction. This could take time as satisfaction has been low in recent years, but long-term, devoting this time will pay off….

Figure 2

Originality rating scale

Rating Level	Benchmark example
1	They should do quality maintenance checks at each facility. They could lower the price of the vehicle to make it more accessible to people. They could also emphasize more on the other cars by advertising. They should also have a loyalty program for benefits to increase customers and also their revenue. They could increase marketing on cars that are less popular and decrease the price to liquidate the product
3	There are many options as to how the Eagle Car company can get back to being the best in the nation just like they were at one point. By going outside of the domestic U.S. Market, there is a greater population of consumers that could be reached. Many different models could be produced by the Eagle Car company so that the domestic U.S. market and beyond could put more use to these products. For example, a family might be more interested in a mini-van or SUV rather than a sports car. By using similar pieces in this car, the quality could be increased while still being efficient. These are just some of the ways that the Eagle Car Company could get back on track to obtaining their high ranking.
5	Add new features other than what the other cars have. A new sleek body style to make it stand out from other cars. Advertise the new model and quality of the company to promote the new changes. Sell these cars to rental car companies so that when people drive them, they may want to buy them. Advertise the car by a sports team that is high up so that they gain as many viewers as possible. They can produce a variety of models. Make a commercial that grabs consumer's attention. Provide influencers in the commercials. Find a way to lower the cost to a reasonable amount Sell the customer service to the company

Figure 3

Elegance rating scale

Rating Level	Benchmark example
1	Fire least experienced & train the other half Less executives & middle managers Retrain all workers Create new quality tests
3	The Eagle Car company has a very strong dealership network and most people respect the company, so they should not change the dealership. The company should focus more on making the cars with better quality, instead of focusing on just making the car because most other companies can do the same. The Eagle car company could also expand their dealership across the world and not just the United states. The workers working at the dealership could also talk to their customers about what they could improve about the company, doing this would make the customers happier, meaning that they actually care about. The company could do more research about the other companies and figure out what they could do better for their own company. The company could also take the cars that they are not selling and lower the price and they could say that they have interesting features.
5	For the first step of their plan the company needs to go out and speak to their loyal customers and see what has gone wrong. The best point of view they can get is from the people who are going to purchase the cars. This will not only help them make better products, but also grow their interactions with customers and show they care. Next, they should go research competitors, like they did for them. This proves they are ready to compete. This also help them find their weaknesses and show them where they need to grow and improve. Also, they can see what products are helping them strive the most. Thirdly, they need to work with the inventory they have currently to build the revenue they potentially will lose. If unable to sell their current inventory they could scrap the parts and use those to help with the new products, easily saving money and helping their revenue again….