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# PERSONALITY AND LEADER EMERGENCE IN GROUPS

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## **Abstract**

Trait-based approaches to leadership have been around for a long time. Starting out as one of the original theories of leadership, research in the area of trait-based perspectives began to slow and give way to other, different domains of predicting leadership in the 1950s. Only recently has there been a revived interest in the trait approaches to leadership. Building on this resurgence, the present study examined the relationship between leader emergence and the Five Factor Model of personality (Extraversion, Agreeableness, Openness to Experience, Neuroticism, and Conscientiousness).

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## Introduction

Leaders often determine the success and failure of organizations and have, therefore, been a frequent topic of organizational research. Initially, research on leadership centered on discovering traits that would consistently predict effective leaders (Zaccaro, 2007). Leadership was assumed to be a general personal trait independent of the context in which leadership activities were performed (Vroom & Jago, 2007). Accordingly, the “great man” theory was born from the idea that major events in world history were assumed to be the result of individuals whose genius and vision changed the world (Vroom & Jago). This notion of finding a “great man” and the idea that history is shaped by the forces of extraordinary leadership, gave rise to the trait theory of leadership. Building on the “great man” theory, the trait theory assumed that leadership depended on the personal qualities of the leader (Judge, Bono, Ilies, & Gerhardt, 2002). More specifically, trait theory emphasized personal characteristics and held the idea that leaders were born rather than made (Den Hartog & Koopman, 2002).

While trait theory fell out of favor during the 1950s, recent research has recognized the usefulness of this approach and considerable attention has been focused on personality traits that might distinguish leaders from followers (Bradley, Nicol, & Charbonneau, 2002). For example, such personality traits as conscientiousness and emotional stability have been related to managerial advancement (Barrick & Mount, 1991). Additionally, self-acceptance, sociability, and internal locus of control have all been linked to effective leadership (Bass,

1998). The present study aims to build upon this research by examining the relationship between emergent leadership and the Five Factor Model of personality (Extraversion, Agreeableness, Openness to Experience, Neuroticism, and Conscientiousness).

### History of the Trait Approach

The foundation of many trait-based perspectives of leadership goes back to the days of Sir Francis Galton with his work on Hereditary Genius in 1869 (Zaccaro, 2007). Two basic perspectives of leadership were derived from Galton's work (Zaccaro). One such perspective defined leadership as "a unique property of extraordinary individuals" and the other pointed out that "unique attributes of such individuals are because of their genetic makeup".

As the topic of leadership became prevalent among organizations, theories began to build upon the perspectives discussed by Galton, with arguably the most influential, being the Trait Approach of leadership. This view of leadership took the principles of Galton's work and focused on identifying and measuring traits that distinguished leaders from non-leaders (Hollander & Offermann, 1990). From these distinctions, it was hoped that a profile of an "ideal" leader could be derived, which could serve as a basis for the selection of future leaders (Den Hartog & Koopman, 2002).

Research up to the 1950s failed to yield a consistent picture of leader traits, which contributed to a decline in research on the Trait Approach of leadership (Den Hartog & Koopman, 2002). As time went on, a variety of different views of leadership began to change the way researchers viewed the

topic by adding approaches such as Behavior/Style (effectiveness has to do with how the leader behaves), Contingency (effectiveness of leadership is affected by the situation or the context), and more recently, Charismatic and Transformational leadership (leaders need vision and inspire loyalty and emotional attachment) (Den Hartog & Koopman). As these new theories developed, the trait approach gave way to research and discussions into alternative views of leadership.

### Multi-Variable Approach

There has been a recent resurgence of interest in the Trait Approach and psychologists have made contributions to leadership research by incorporating other variables into the study of leadership characteristics. One alternative view of leadership under the Trait Approach involved focusing on several distinct personality traits which were believed to help researchers understand the construct of leadership. For example, taxonomies have emerged which have incorporated different traits, characteristics, situations, and additional variables in hopes of understanding many of the dimensions of personality traits (Tanoff & Barlow, 2002).

The Trait Approach has been modified to imply that an individual's achieved leadership status is partially a function of his personality. Sufficient evidence has also accumulated to support the situational approach to leadership, which maintains that leadership is an emergent phenomenon, created through the interaction of individuals (leaders and followers), and that the selection and

stability of any leadership pattern is a function of the task, composition, and culture of the group (Mann, 1959).

Vroom and Jago (1988) recognized the importance of incorporating the situation into the study of leaders and that simply controlling for situations neglected an important aspect of leader behavior. This recognized importance of the role of situational forces influenced researchers to look for individual differences in different situations. Research that identifies and focuses on the emergence of leadership behavior has built upon the trait approach to leadership by including the consideration of other situational and behavioral variables.

To understand leadership traits and behavior it is necessary to start by considering what traits and characteristics are involved. Traits can be defined as dispositions to behave in consistent patterns of functioning across a range of situations (Den Hartog & Koopman, 2002). Utilizing this definition, current research on the trait approach tends to focus on three categories of relatively stable individual differences.

The first category includes ability characteristics such as intelligence, knowledge, and fluency of speech. The second category includes personality traits such as dominance, emotional control, expressiveness, and introversion-extroversion (Den Hartog & Koopman, 2002). The third and more distinct category focuses on physical characteristics, such as height, physique, appearance, and age. Physical attractiveness and other aspects of appearance have been shown to be predictive of social skills and other traits that could influence leader success or that of a candidate for leadership (Cherulnik, 1995).



One of these categories, key personality traits, is most relevant to the present discussion of leader emergence because of strong, supporting research on the topic. A single trait approach to leadership may not yield generalizable results across situations; however by introducing a multi-variable approach, such as the traits of the Five Factor Model for instance, a more acceptable, overarching result will be achieved in predicting leader emergence.

#### Five Factor Model

The dimensions comprising the Five Factor Model are Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness (Barrick & Mount, 1991). The Five Factor Model structure does not imply that personality differences can be reduced to only five traits; rather that these five dimensions represent personality at the broadest level of abstraction, and each dimension summarizes a large number of distinct, more specific personality characteristics (John & Srivastava, 1999).

By using inventories such as the Five Factor Model, it is suggested that patterns of attributes and multi-variable approaches yield a better prediction of leadership perceptions (Smith & Foti, 1998). A multi-variable or pattern approach such as the Five Factor Model conceptualizes all traits as an integrated totality rather than as a summation of variables (Magnusson, 1999). More specifically, this approach focuses on the interaction among variables, in which the person is the basic unit of observation and not a single, specific trait (Foti & Hauenstein, 2007). Each of the traits included in the Five Factor Model are identified and discussed below.

### *Extraversion*

Extraversion represents the tendency to be outgoing, assertive, active, and excitement seeking (Judge & Bono, 2000). Extraversion is strongly related to social leadership and leader emergence in groups (Judge, Bono, Ilies, & Gerhardt, 2002). The outgoing, sociable, and assertive characteristics of extraverts are congruent with leadership roles that require interactions with and persuasion and motivation of others to achieve goals (House, 1977). In addition, leaders are more likely than nonleaders to have a high level of energy and stamina and to be generally active, lively, and often restless (Kirkpatrick & Locke, 1991).

### *Openness to Experience*

Openness represents the tendency to be creative, imaginative, perceptive, and thoughtful. Openness to Experience is the only Big Five trait to display appreciable correlations with intelligence (Judge & Bono, 2000). Openness correlates with divergent thinking and is strongly related to both personality-based and behavioral measures of creativity (Judge et al., 2002). Judge et al indicate that creativity is linked to effective leadership, suggesting that open individuals are more likely to emerge as leaders and be effective leaders.

### *Conscientiousness*

Conscientiousness is indicated by two major facets: achievement and dependability. In general, individuals who are responsible, organized, and willing to work hard should be more confident in the tasks assigned to them because of their will to accomplish the tasks (Judge & Ilies, 2002). In addition, more

conscientious leaders are likely to be more active in their leadership roles because of their greater tenacity and persistence in completing their tasks (Ng, Ang, & Chan, 2008).

### *Agreeableness*

Charismatic leaders have been described as generous and concerned for others. To mentor successfully, one needs empathy (Judge & Bono, 2000). According to Wiggins (1996), the primary motivational orientation of agreeable individuals is altruism—the concern with others' interests and empathy for their condition. In support of these arguments, Ross and Offerman (1991) found positive relationships between several aspects of Agreeableness (i.e., compassion, nurturance) and charismatic leadership.

### *Neuroticism*

Individuals who score high on measures of Neuroticism lack self-confidence and self-esteem, however self confidence is argued to be an essential characteristic of transformational leaders (McCrae & Costa, 1991). Leaders who have a high level of self-confidence and self-esteem are better able to set high performance standards and convince followers on the attainment of certain goals (Bass, 1990). More specifically, leader self-confidence plays an important role in gaining followers' trust and in presenting a positive, compelling, and inspiring view of the future (Judge & Bono, 2000).

### Leader Effectiveness vs. Leader Emergence

Leader emergence identifies the factors associated with someone being perceived as leader-like (Hogan et al., 1994). Leader emergence refers to

whether or not an individual is viewed as a leader by others who typically only have limited information about the individual's performance. In comparison, leader effectiveness refers to a leader's performance in influencing and guiding activities toward the achievement of a goal (Stogdill, 1950). The characteristics of a leader are associated with evaluations of leader quality and the criteria for effective leaders are of interest to a variety of groups and organizations (Muchinsky, 2007).

Organizational assessments of leadership effectiveness most commonly consist of ratings made by the leader's supervisor, peer, or subordinate or a combination of the three (Judge et al., 2002). However, these ratings could be criticized as potentially contaminated because they represent an individual's perception of leadership effectiveness rather than objectively measuring a person's performance (Lord, Foti, & De Vader, 1984). This being the case, researchers are now interested in the dynamics of what causes leaders to emerge within a group (Muchinsky, 2007).

In identifying, understanding, and taking into consideration the success and obstacles of previous studies, the hypotheses which will be tested in the present study will focus on the implementation of the Five Factor Model and its correlation with leader emergence in groups. The hypotheses are presented below.

*Hypothesis 1a: A positive relationships will exist between Extraversion and leader emergence.*

*Hypothesis 1b: A positive relationship will exist between Openness to Experience and leader emergence.*

*Hypothesis 1c: A positive relationship will exist between Conscientiousness and leader emergence.*

Based on the research supporting the Trait Approach and the distinctions made between leader effectiveness and leader emergence, it is believed that such an emergent phenomenon within a group may be explained by certain personality characteristics within the Five Factor Model.

*Hypothesis 2: Emergent leaders will score higher on Extraversion, Openness to Experience, and Conscientiousness than formally designated leaders.*

### *Followers*

A key component of the process of leadership is based on the relationship between leaders and followers (Tanoff & Barlow, 2002). While previous research has provided numerous amounts of models and theories to address the construct of leadership, only a limited number of studies have aided psychologists with the construct of followership (Tanoff & Barlow). Within this limited amount of research on the topic, a couple of possibilities of the origins of followership are presented. First, the mind may be designed to evaluate one's relative place in a hierarchy and to evaluate the costs and benefits of competing for higher status (Gangestad & Simpson, 2000). If the calculated costs of competing for status

outweigh the benefits, then followership would be a rational choice that would free time and energy for other pursuits (Gangestad & Simpson).

It may also be that, although the payoffs for followers may be less than those for leaders, coordination among group members may lead to higher payoffs for the group. In terms of higher payoffs for everyone involved in a highly coordinated group, followers may not be as well off as their leaders, but they are better off than individuals in poorly led groups (Van Vugt, Hogan, & Kaiser, 2008). It appears that effective followership can be as important, if not more so, than effective leadership in the success of an organization (Van Vugt et al.). This being the case, the same measures and procedures used to examine leadership will be used to examine the construct of followership.

*Hypothesis 3: Self-ranked followers will score lower on Extraversion, Openness to Experience, and Conscientiousness than emergent leaders.*

## Method

### *Participants*

Participants were 172 students from the University of Tennessee at Chattanooga. One hundred and thirty-three of the participants were female (60.2%), 66 were male (38.6%), and two chose not to respond (1.2%). Of the participants in the study, 120 (70.2%) were Caucasian, 37 (21.6%) were African American, four (2.3%) were Asian, four (2.3%) were Hispanic, three (1.8%) described themselves as Other, and three (1.8%) chose not to respond. When asked about their age, 153 (89.6%) of the participants reported being between 18

and 22 years of age ( $M = 19.31$ ,  $SD = 3.27$ ), with the remainder reporting ages up to 56. One hundred and thirty-one (76.6%) of participants listed they had previously held a leadership position, whereas 39 (22.8%) of the participants listed that they had no such experience. When asked if the participants had any previous leadership courses or training, 44 (25.7%) of the participants answered “yes” while 125 (73.1%) answered “no.”

### *Procedures*

After receiving a consent form and being notified of possible extra credit incentives, participants were divided into teams of four to six people. Each team was given minimum instruction on their participation in a group exercise. Participants were either assigned to a group which had a designated leader or a group which did not have a designated leader. Leader designated groups consisted of four to six participants in which a leader was assigned before the group was instructed to participate in a survival scenario game. Non-leader designated groups also consisted of four to six participants; however no leader was assigned to lead throughout the task. In order to keep the responses anonymous and aid in data collection, members in each group were given a lettered-nametag (i.e., A, B, C, D, E, and F).

After the individuals participated in an assigned survival scenario activity (discussed in Measures and Materials), they were asked to complete the Leadership Emergence questionnaire (Pavitt, Whitchurch, McClurg, & Petersen, 1995) on each group member, including themselves. Each group member was also asked to rank every group member, including themselves, on who exhibited

the most leadership skill during the activity. Lastly, each participant completed questionnaires assessing personality characteristics as well as demographic information.

### *Measures and Materials*

*Demographics.* A questionnaire (Appendix A) was given to all participants to complete with questions related to their background, history, and experience in leadership positions or training.

*Leadership emergence questionnaire.* Leadership emergence was assessed utilizing the 16 item measure developed by Pavitt, Whitchurch, McClurg, and Petersen, 1995 (Appendix B). All questions asked participants to indicate agreement using a seven-point scale. Responses ranged from 1 (not at all) to 7 (very much so). Using the scale, participants judged the extent to which fellow group members, as well as themselves, demonstrated leader emergence throughout the activity. Cronbach's alpha was .87. After completion of the questionnaire, each individual was assigned a leadership score based on the perceptions of their peers. Each group member's judgments across all 16 characteristics was totaled and averaged. The value served as the individual's leadership emergence score.

A rank-order of members exhibiting the most leadership skill during the group activity was also included, to identify where participants ranked themselves in leadership skill (1= showing the most leadership, 6=showing the least leadership). The rank-ordering served as another tool for assessing perception of leadership emergence within each participant's perspective groups.



*Five Factor Model.* Personality traits were assessed using the 50 item measure available through the International Personality Item Pool (Goldberg et al., 2006) (Appendix C). A seven-point Likert scale (1 = disagree strongly to 7 = agree strongly) was used as respondents were asked to rate the degree to which they see themselves as a person who engages in a variety of ways. For the purposes of this study, all traits in the Five Factor Model (Agreeableness, Conscientiousness, Extraversion, Openness to Experience, and Neuroticism) were assessed. Cronbach's alpha was computed to test the reliability of the scales of Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness to Experience and was found to be .90, .83, .81, .82, and .62 respectively.

*Survival scenario activity.* The same survival scenario activity (included in Appendix D) was administered to both the leader-designated and non-leader-designated groups. The activity provided participants with a brief description of a realistic survival scenario and then identified a list of resources that is part of the scenario. Individuals were instructed to list out the 12 items (resources) in order of importance to their survival. After five minutes, each group was instructed to reach a consensus on the order of the 12 items after having the chance to discuss the scenario amongst themselves. It was stressed that each decision be made by the group and not a single participant (Scouting, 2008).

## *Results*

The means, standard deviations, and simple correlations for each of the study variables are reported in Table 1. Among the Five Factor Model traits, Agreeableness had the highest mean score ( $M = 54.60$ ;  $SD = 8.83$ ) while the trait of Neuroticism had the lowest mean score ( $M = 42.98$ ;  $SD = 10.06$ ). In addition, the variables of Leader Emergence and Participant Self-Rank were measured among all participants. The leader emergence score was found to be average ( $M = 3.74$ ;  $SD = .74$ ). Also, participant self-rank ( $M = 2.94$ ;  $SD = 1.34$ ) was average (between 1 and 5 or 6 depending on group size).

For Hypothesis 1, a bivariate correlation was used to determine a relationship between the traits of Extraversion, Openness to Experience, and Conscientiousness and leader emergence. The results show that Extraversion, Conscientiousness, and Openness to Experience were significantly related to leader emergence score,  $r = .13$ ,  $.15$ , and  $.14$  respectively (all  $p < .05$ ). In general, the results show that the hypothesis was fully supported based on the correlation performed using a one-tailed test. It is important to note that the traits of Neuroticism ( $p = .28$ ) and Agreeableness ( $p = .13$ ) were not found to be significantly related to leader emergence.

In addition, linear regressions were performed with the participant's leader emergence score as well as the participant's self rank of leadership skill during the activity on all five characteristics in the Five Factor Model as well as participant age, gender, and ethnicity. In the case of the total leader emergence score, the regression was  $F(8,159) = 1.41$ ,  $p < .05$ , showing significance for

Extraversion and Conscientiousness only. Also, regarding participant self rank, the regression was  $F(8, 149) = 2.72, p < .05$ , showing significance for the items of Extraversion and Openness to Experience only (see Table 2). The traits of Neuroticism ( $F(8,159) = 1.41, p = .59$  &  $F(8, 149) = 2.72, p = .32$ ) and Agreeableness ( $F(8,159) = 1.99, p = .70$  &  $F(8, 149) = 2.72, p = .87$ ) were not found to be significant in either regression. In the regression of participant's Leader Emergence score, no significant differences existed between participant age, gender, or ethnicity. However, in the regression of participant self-rank onto the Five Factor Model, gender was  $F(3, 154) = 4.30, p < .05$ , showing a significance difference between male and female participants.

For Hypothesis 2, two separate independent-samples *t*-tests were performed to evaluate group differences between emergent leaders and designated leaders. First, an independent-samples *t*-test was performed using the Leadership Emergence score as the variable for an emergent leader (group member with the highest score). No significant differences existed between emergent leaders and designated leaders on any of the traits in the Five Factor Model. Going one step further, an independent-samples *t*-test was performed using the average ranking by group members as the variable for an emergent leader (group member with the highest average ranking). No significant differences were present between emergent leaders and designated leaders either.

Based on these results, emergent leaders and designated leaders were grouped together and group differences were then examined strictly between

leaders and followers. In looking at each of the hypothesized traits, only Extraversion was found to be significant with  $t(169) = 1.78, p < .05$ . However, even though it was significant, followers actually scored higher than leaders within the study. Although Hypothesis 2 was not supported, the results have limited power in comparing 32 leaders and 139 followers.

An additional independent-samples  $t$ -test was performed to further evaluate the hypothesis of group differences by examining the differences between designated leaders and non-designated leaders. The only trait found to be significant was Openness to Experience,  $t(169) = -1.86, p < .05$ . Extraversion was not found to be significant  $t(169) = -1.12, p = .13$  and Conscientiousness was not found to be significant  $t(169) = -.36, p = .36$ . Participants who were not the designated leader exhibited more openness to experience ( $M = 50.75; SD = 9.70$ ) than those who were designated leaders ( $M = 45.93; SD = 8.34$ ) (see Table 3).

For Hypothesis 3, a bivariate correlation was performed to determine a relationship between participant self-rank and the traits of Extraversion, Openness to Experience, and Conscientiousness. The results of the correlational analyses presented in Table 1 show that Extraversion ( $p < .05$ ), Neuroticism ( $p < .01$ ), and Openness to Experience ( $p < .01$ ) were significantly and negatively correlated with participant's self-rank, based on the correlation performed using a one-tailed test. Using a one-tailed test,  $r = -.17, -.21, \text{ and } -.03$  respectively. On the other hand, the traits of Agreeableness ( $p = .48$ ) and Conscientiousness ( $p = .35$ ) were not found to be significant. In general, the

results show a correlation between participant self-rank (self-reported followers) and Extraversion, Neuroticism, and Openness to Experience, partially supporting the hypothesis by exchanging the traits of Neuroticism and Conscientiousness as mentioned in the hypothesis.

Going further, a Spearman's rank order correlation was performed to determine the relationship between participant self-rank and the traits of Extraversion, Openness to Experience, and Conscientiousness, taking into account the ordinal data present. The results of the correlation presented in Table 4 mirror that of the bivariate correlation discussed in the previous paragraph. The results of the Spearman's rank order correlational analyses show that Extraversion ( $p < .05$ ), Neuroticism ( $p < .05$ ), and Openness to Experience ( $p < .01$ ) were significantly and negatively correlated with participant's self-rank. Based on the correlation performed using a one-tailed test,  $r = -.18, -.18, \text{ and } -.24$  respectively.

Additional analyses were performed to find possible differences in responses between men and women concerning participant self-rank and their leader emergence score. No significant differences were present between male leader emergence scores ( $M = 3.76; SD = .77$ ) and female leader emergence scores ( $M = 3.73; SD = .73$ ). However, there was a significant difference between male self-rank ( $M = 2.52; SD = 1.33$ ) and female self-rank ( $M = 3.19; SD = 1.30$ ). Male participants tended to rank themselves higher (showing more leadership skill during the activity) than that of female participants.

## Discussion

The purpose of this study was to analyze the relationship between personality characteristics and emergent leadership. The Five Factor Model of personality was utilized and it was specifically hypothesized that Extraversion, Openness to Experience, and Conscientiousness, would be related to leadership behavior. While most, but not all of the hypotheses were supported, specific relationships between selected traits and leader emergence as well as proven group differences provide insight into the current discussion of leadership theories in the academic literature as well as having real world application.

### *Implications and Applications*

The results of this study provide support for personality as an important aspect of leadership. Specifically, it was found that certain personality traits correlate with the emergence of leaders within a group. As hypothesized, the traits of Extraversion, Conscientiousness, and Openness to Experience were found to be positively correlated with the emergence of leaders in groups. In addition, self-reported followers scored lower on the selected personality traits of Extraversion and Openness to Experience, than emergent leaders. While the results of the study do not discount other theories of leadership, they do provide sound evidence that individual differences are present between those that emerge as leaders and those that do not.

Although more research is suggested, it is recommended that the application of these findings be utilized in cases in which leadership qualities are needed. Such examples might be leadership for sports teams, corporate work

groups, as well as military regimes or leadership positions within communities. The results of the study provide evidence supporting the use of personality characteristics (extraversion, conscientiousness, and openness to experience) to assess the likelihood that an individual would emerge as a leader.

### *Limitations and Considerations*

The limitations of the paper are primarily grounded in the lack of financial and logistical resources available at the present time. It is recommended that more time be devoted to studying individual differences between leaders and nonleaders and that a more elaborate leadership activity is performed before assessing participants on leader emergence. While the current activity is believed to be sufficient, a longer, more involved activity in which the participants would have more time to interact and thus fully develop their leadership skills is proposed in order to provide more generalizable results.

While all participants were students at The University of Tennessee at Chattanooga, it is recommended that a similar study be performed on individuals in different situations such as on sport teams or in corporate work groups. Though the current study has real world application, it is limited as to whether the situation has an impact in different situations. This action may produce stronger, more diverse support for the hypotheses discussed within the paper.

Another limitation of the current study lies within the idea that certain situational factors may be present which have a moderating effect on the validity of personality in predicting leadership. Literature on trait-based leadership theories provides suggestions for possible moderators of the effectiveness of

leadership traits. For example, it is suggested that conscientiousness may be more related to leadership effectiveness when task structure is low, because with ill-defined tasks, structure is needed to enhance followers' expectancies of successful goal completion (Kerr & Jermier, 1978).

### *Future Research in Trait-Based Leader Emergence*

Future research on the topic of trait-based leader emergence should incorporate additional variables which would ultimately add support to the topic. For example, additional personality characteristics, other than the widely-accepted Five Factor Model could be used in order to find additional correlations with leader emergence within groups. Other personality scales or characteristics would bring more support to the study of leader emergence, helping to encompass a much broader range of individual differences.

To name a few, dominance, self-monitoring, and self-efficacy could also be explored in relation to the dimensions discussed within the current study. For example, Hogan's (1978) study, which was conducted with student football team players in a leaderless group setting proved that dominance has a positive relationship with leader emergence. In addition, Turetgen, Unsal, and Erdem (2008) mentions that J. A. Smith and Foti (1998) examined the roles of dominance, intelligence, and self-efficacy in which they showed that all three traits predicted leader emergence, and they suggested that future research include a self-efficacy trait, which at the time held little supporting research.

While the current study at hand examines leader emergence during a short leadership activity, it is recommended that future research look into leader



emergence as well as leader “submergence”. Questions centering on “does a leader that emerges in a group, stay a leader during the entire process?” or “if a leader emerges then “submerges”, what factors cause this to happen?” should be addressed in the attempt to understand the somewhat complex idea of leader emergence.

The current study only briefly mentioned the phenomena of followership and it is suggested that future research focus on the topic which currently has a limited amount of research to support the idea. The question of “why do people lead” should be answered in the further investigation of this topic. In answering such a question, it is important to know that a key component of the process of leadership is based on the relationship between leaders and followers (Daft, 1999). It is during the investigation of this relationship, that researchers would be able to expand on their research of leadership and the theories in which are used to explain the topic.

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**Table 1***Means, Standard Deviations, and Correlations of Leader Emergence, Participant Self-Rank, and Five Factor Model*

---

	Mean	SD	1.	2.	3.	4.	5.	6.	7.
1.Leader Emergence	3.74	.74	--						
2.Self-Rank	2.94	1.34	-.01	--					
3.Extraversion	45.21	12.17	.13*	-.17*	--				
4.Agreeableness	54.60	8.83	.09	.00	.16	--			
5.Conscientiousness	48.28	9.27	.15*	-.03	-.03	.27	--		
6.Neuroticism	42.98	10.06	.05	-.19**	.22	-.02	.19	--	
7.Openness to Experience	50.33	9.67	.14*	-.21**	.04	.16	.09	.08	--

---

\*p<.05, \*\*p<.01



**Table 2***Summary of Linear Regression Analysis for Predicting Leader Emergence and Participant Self Rank*

Variable	<i>B</i>	SE <i>B</i>	$\beta$
<i>Step 1</i>			
<b>Leader Emergence Score</b>			
Age	-.17	1.69	-.01
Gender	-4.60	11.35	-.03
Ethnicity	-4.08	6.88	-.05
<b>Participant Self-Rank</b>			
Age	-.05	.03	-.11
Gender	.66	.22	.24**
Ethnicity	.16	.13	.10

---

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

**Table 2. (Continued)**

*Summary of Linear Regression Analysis for Predicting Leader Emergence and Participant Self Rank*

---

Variable	<i>B</i>	SE <i>B</i>	$\beta$
<i>Step 2</i>			
<b>Leader Emergence Score</b>			
Extraversion	.81	.47	.14*
Agreeableness	.28	.72	.04
Conscientiousness	1.25	.64	.16*
Neuroticism	-.36	.65	-.05
Openness to Experiences	.84	.60	.16
<b>Participant Self-Rank</b>			
Extraversion	-.02	.01	-.14*
Agreeableness	.01	.01	.01
Conscientiousness	.00	.01	.00
Neuroticism	-.01	.01	-.10
Openness to Experiences	-.02	.01	-.15*

---

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

**Table 3***Group Differences between Designated Leaders and Non-Designated Leaders*

---

	Designated Leaders		Non-Designated Leaders	
	Mean	Std. Dev	Mean	Std. Dev
Extraversion	41.87	10.20	45.53	12.32
Agreeableness	53.07	8.23	54.74	8.90
Conscientiousness	47.47	6.30	48.36	9.51
Neuroticism	39.53	11.50	43.31	9.88
Openness to Experience	45.93	8.34	50.75	9.70
Leader Emergence	329.20	55.47	362.07	71.68
Self-Rank	2.40	1.30	2.99	1.34

---

**Table 4**

*Spearman's Rank Order Correlations of Leader Emergence Score, Participant Self-Rank, and Five Factor Model*

---

	1.	2.	3.	4.	5.	6.	7.
1.Leader Emergence	--						
2.Self-Rank	-.01	--					
3.Extraversion	.10	-.18*	--				
4.Agreeableness	.08	.01	.16	--			
5.Conscientiousness	.15*	-.03	-.03	.29	--		
6.Neuroticism	.06	-.18*	.24	-.03	.18	--	
7.Openness to Experience	.16*	-.24**	.09	.20	.11	.10	--

---

\*p<.05, \*\*p<.01

## Appendix A

### Demographic Form

This form is designed solely to collect background information of the research participants. Please respond to all items truthfully. All responses will be kept anonymous and confidential.

1. What is your current age? \_\_\_\_\_
2. Which gender do you identify yourself to be? \_\_\_\_\_ Male \_\_\_\_\_ Female
3. Please indicate your ethnicity:  
\_\_\_\_ Caucasian (white)  
\_\_\_\_ African American  
\_\_\_\_ Asian  
\_\_\_\_ Hispanic  
\_\_\_\_ Other
4. What is your current major and/or concentration? \_\_\_\_\_
5. What is your current school status?  
\_\_\_\_ Freshman  
\_\_\_\_ Sophomore  
\_\_\_\_ Junior  
\_\_\_\_ Senior  
\_\_\_\_ Grad Student
6. Please indicate the category that best fits your **individual** annual income. (Circle one)  
\$19,999 or less      \$20,000 - \$29,999      \$30,000 - \$39,999      \$40,000 - \$49,999      \$50,000 and above
7. Please indicate the category that best fits your **combined family** annual income. (Circle one)  
\$19,999 or less      \$20,000 - \$29,999      \$30,000 - \$39,999      \$40,000 - \$49,999      \$50,000 and above
8. What is your current work status?  
\_\_\_\_ Full Time  
\_\_\_\_ Part Time  
\_\_\_\_ Unemployed
9. Have you ever held any leadership positions (captain of a sports team, student government, club president, camp counselor, etc.)? \_\_\_\_\_ Yes \_\_\_\_\_ No
10. Have you had any previous leadership courses or training? \_\_\_\_\_ Yes \_\_\_\_\_ No  
If yes, please explain: \_\_\_\_\_

## Appendix B

### Leadership Measure

(Pavitt et al., 1995)

For each group member, including yourself, please indicate how much they displayed the characteristic by circling the appropriate number.

NAME (group member): \_\_\_\_\_

Enthusiastic	1	2	3	4	5	6	7
	Not at all much so						Very
Forceful	1	2	3	4	5	6	7
	Not at all much so						Very
Understanding	1	2	3	4	5	6	7
	Not at all much so						Very
Supportive	1	2	3	4	5	6	7
	Not at all much so						Very
Intelligent	1	2	3	4	5	6	7
	Not at all much so						Very
Creative	1	2	3	4	5	6	7
	Not at all much so						Very
Friendly	1	2	3	4	5	6	7
	Not at all much so						Very
Organized	1	2	3	4	5	6	7
	Not at all much so						Very

Stated the group's procedure	1	2	3	4	5	6	7
	Not at all much so						Very
Encouraged group member participation	1	2	3	4	5	6	7
	Not at all much so						Very
Encouraged harmony among members	1	2	3	4	5	6	7
	Not at all much so						Very
Summarized the group's decision	1	2	3	4	5	6	7
	Not at all much so						Very
Facilitated group discussion	1	2	3	4	5	6	7
	Not at all much so						Very
Played devil's advocate	1	2	3	4	5	6	7
	Not at all much so						Very
Managed conflict	1	2	3	4	5	6	7
	Not at all much so						Very
Kept group discussion organized	1	2	3	4	5	6	7
	Not at all much so						Very

\*\*\*Please rank order the group members, including you, in terms of who exhibited the most leadership skill. (1= showing the most leadership, 6= showing the least leadership)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

## Appendix C

### IPIP Scales

(Goldberg et al., 2006)

#### Instructions

On the following pages, there are phrases describing people's behaviors. Please use the rating scale below to describe how accurately each statement describes *you*. Describe yourself as you generally are now, not as you wish to be in the future. Describe yourself as you honestly see yourself, in relation to other people you know of your same sex, and roughly your same age. So that you can describe yourself in an honest manner, your responses will be kept in absolute confidence. Please read each statement carefully, and then fill in your response that corresponds to the number on the scale.

#### Response Options

1	2	3	4	5	6	7
Very			Neither Inaccurate			Very
Inaccurate			nor Accurate			Accurate

1		I am the life of the party.
2		I feel little concern for others.
3		I am always prepared.
4		I get stressed out easily.
5		I have a rich vocabulary.
6		I don't talk a lot.
7		I am interested in people.
8		I leave my belongings around.
9		I am relaxed most of the time.
10		I have difficulty understanding abstract ideas.
11		I feel comfortable around people.



12		I insult people.
13		I pay attention to details.
14		I worry about things.
15		I have a vivid imagination.
16		I keep in the background.
17		I sympathize with others' feelings.
18		I make a mess of things.
19		I seldom feel blue.
20		I am not interested in abstract ideas.
21		I start conversations.
22		I am not interested in other people's problems.
23		I get chores done right away.
24		I am easily disturbed.
25		I have excellent ideas.
26		I have little to say.
27		I have a soft heart.
28		I often forget to put things back in their proper place.
29		I get upset easily.
30		I do not have a good imagination.
31		I talk to a lot of different people at parties.
32		I am not really interested in others.
33		I like order.
34		I change my mood a lot.

35		I am quick to understand things.
36		I don't like to draw attention to myself.
37		I take time out for others.
38		I shirk my duties.
39		I have frequent mood swings.
40		I use difficult words.
41		I don't mind being the center of attention.
42		I feel others' emotions.
43		I follow a schedule.
44		I get irritated easily.
45		I spend time reflecting on things.
46		I am quiet around strangers.
47		I make people feel at ease.
48		I am exacting in my work.
49		I often feel blue.
50		I am full of ideas.

## Appendix D

### Survival Scenario Activity

(Scouting, 2008)

You and your companions have just survived the crash of a small plane. Both the pilot and co-pilot were killed in the crash. It is mid-January, and you are in Northern Canada. The daily temperature is 25 below zero, and the night time temperature is 40 below zero.

There is snow on the ground, and the countryside is wooded with several creeks in the area. The nearest town is 20 miles away. You are all dressed in city clothes appropriate for a business meeting. Your group of survivors managed to salvage the following items:

*A ball of steel wool*  
*A small ax*  
*A loaded .45-caliber pistol*  
*Can of Crisco shortening*  
*Newspapers (one per person)*  
*Cigarette lighter (without fluid)*  
*Extra shirt and pants for each survivor*  
*20 x 20 ft. piece of heavy-duty canvas*  
*A sectional air map made of plastic*  
*One quart of 100-proof whiskey*  
*A compass*  
*Family-size chocolate bars (one per person)*

Your task as a group is to list the above 12 items in order of importance for your survival. List the uses for each. You MUST come to agreement as a group.

#### Individual Ranking

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.
- 12.

#### Group Ranking

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.
- 12.

## **Appendix E**

### **Informed Consent Form**

While we hope that you will complete the attached study, your participation is voluntary. You may elect not to participate at any time. In addition, if you do not feel comfortable answering any of the questions you may leave that question blank and continue with the rest of the study. The information you provide will be anonymous and we do not ask you to identify yourself in any way. Every measure possible will be taken to ensure anonymity, including the use of ID numbers throughout the study. We do not foresee any risks associated with your participation in this project. At no time will single responses be identified. You will not receive any direct benefit from participating in the study. Your decision to participate will in no way affect your grade or class standing.

In order to complete this survey you must be 18 years of age. This survey (approved by the UTC IRB Committee #08-206) will ask you questions about yourself, as well as others members of your group. In addition to these questions, other questions will provide us with information about your background, educational status, gender, etc. These questions will help us interpret the data in the study.

We hope that you will complete the survey and return all response sheets located in the packet to the researcher. Remember this is an anonymous survey, so do not put your name on any part of the survey. We expect that it will take approximately 20 minutes to participate in this study.

#### **Contact Information**

If you have any questions or would like to obtain a report of this research study when the results are completed, please contact the primary investigator, Rhett Smith ([rhett-smith@utc.edu](mailto:rhett-smith@utc.edu)) or Dr. Bart Weathington ([bart-weathington@utc.edu](mailto:bart-weathington@utc.edu), 423-425-4289), Department of Psychology, University of Tennessee at Chattanooga. This survey is being conducted as part of a thesis project.

If you begin to experience any undesirable feelings while completing this survey please contact the counseling center located on campus to assist you at:

University of Tennessee at Chattanooga  
615 McCallie Ave. – Dept. 1801  
Room 338 University Center  
Chattanooga, TN 37403  
(423) 425-4438

**Thank you for your participation in our study!**

## Appendix F




Institutional Review Board  
Dept. 4905  
615 McCallie Avenue  
Chattanooga, TN 37403-2598  
Phone: (423) 425-4443

### MEMORANDUM

---

TO: Rhett Michael Smith  
Dr. Bart Weathington IRB # 08-206

FROM: Lindsay Pardue, Director of Research Integrity   
M. D. Roblyer, IRB Committee Chair

DATE: December 29, 2008

SUBJECT: IRB # 08-206: Personality and Leader Emergence in Groups

The Institutional Review Board has reviewed and approved your application and assigned you the IRB number listed above. You must include the following approval statement on research materials seen by participants and used in research reports:

***The Institutional Review Board of the University of Tennessee at Chattanooga (FWA00004149) has approved this research project # 08-206.***

Please remember that you must complete Form C when the project is completed or provide an annual report if the project takes over one year to complete. The IRB Committee will make every effort to remind you prior to your anniversary date; however, it is your responsibility to ensure that this additional step is satisfied.

Please remember to contact the IRB Committee immediately and submit a new project proposal for review if significant changes occur in your research design or in any instruments used in conducting the study. You should also contact the IRB Committee immediately if you encounter any adverse effects during your project that pose a risk to your subjects.

For any additional information, please consult our web page <http://www.utc.edu/irb> or email [instrb@utc.edu](mailto:instrb@utc.edu)

Best wishes for a successful research project.