

## ABSTRACT

TORREGIANTE, KELLEY MICHELLE. Destructive Personality Traits and Leadership Performance: A Pattern-Oriented Approach. (Under the direction of Sharolyn Converse-Lane and S. Bartholomew Craig).

This study applied a pattern-oriented methodology to the investigation of destructive personality traits and their relationship to leadership performance. Previous research was extended (Hogan & Hogan, 2001) by using Hogan and Hogan's "Dark Side" model, which identified 11 personality traits associated with managerial derailment. Hogan and Hogan created the Hogan Development Survey (HDS) to measure subjects across the 11 traits, scoring high or low on each dimension. For the purposes of this study, I received an archived database of subject responses (N = 295) to the HDS. The subject pool contained working adults who were top executive leaders in the workplace at the time of the investigation. Using a hierarchical agglomerative clustering method, as well as a combinatorial iterative partitioning method, seven primary personality trait configurations were identified. By way of a Multivariate Analysis of Variance, significant differences were found between several clusters on both measures of interpersonal qualities, as well as task-oriented performance. Overall, Cluster 7 showed the lowest performance scores on both criterion measures, based on multi-source performance ratings. A Cluster 7 profile describes a person who is unpredictable, critical, overreacts to pressure, prefers to be alone, not afraid of failure, self-confident, suspicious of authority, sensitive to criticism, resistant to change, detail-oriented, well-organized, decisive and willing to take risks. It is the combination of these traits that coexist to create a behavioral syndrome, which in turn is believed to be attributable to the unsatisfactory leadership performance scores.

**DESTRUCTIVE PERSONALITY TRAITS  
AND LEADERSHIP PERFORMANCE:  
A PATTERN-ORIENTED APPROACH**

by  
**KELLEY MICHELLE TORREGIANTE**

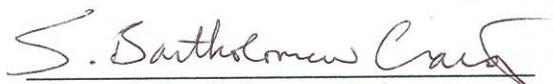
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Kelley M. Torregiante earned her Bachelor of Arts degree in Psychology in 1999 from the University of South Florida in Tampa, Florida. As an undergraduate, her interest in Psychology began when she participated in a research study involving language development and children's lexical innovations on grammar. She also held an internship at St. Joseph's Hospital Psychiatric Care Center, where she assisted and observed bi-weekly group meetings for individuals with drug and alcohol dependency.

After graduation, Kelley spent two years working as a Product Manager for Tech Data Corporation. Her responsibilities included managing the product lines for several manufacturing companies in the networking and storage arenas, ensuring profit through the development of business plans and marketing strategies to drive sales performance.

In 2000, Kelley decided it was time to return to graduate school. Accepted into the Ergonomics & Experimental Psychology program at North Carolina State University, she became a member of the Human Factors and Ergonomic Society, as well as the American Psychological Association. In addition, she was granted a Teaching Assistant position where her responsibilities included assisting with the Introduction to Psychology course, as well as managing the lab section for the undergraduate Research Methods course. The details of this position required the preparation and administration of lectures, grading exams and written reports, and holding office hours for students.

At the graduate level, Kelley was more exposed to various research studies within the department. She participated in one particular ongoing study involving the evaluation of knowledge elicitation methods (e.g. direct vs. indirect, spatial vs. verbal). However, her additional interests in the field of organizational psychology lead her to a thesis topic

on dysfunctional personality and its relationship to leadership performance. Other topics of interest include: training, team environments, macroergonomics, environmental design, and psychosocial factors in the workplace.

Today, Kelley is a Human Factors Consultant for ICE, a design and integration consulting firm based in Tampa, Florida. Her primary responsibilities include performing ergonomic evaluations of office environments, recommending research-based ergonomic solutions, developing ergonomic programs for clients, as well as conducting ergonomic seminars and training courses.

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## Destructive Personality Traits and Leadership Performance: A Pattern-Oriented Approach

### *Introduction*

A fundamental issue in leadership research has been deciding who is best suited to lead. After all, the effectiveness of any chosen leader may ultimately impact the success of the organization, and thus should be the standard by which leaders are judged (Hogan, Raskin, & Fazzini, 1990).

### *Literature Review*

*The Bright Side of Leadership Theory.* Previous research has focused on leadership effectiveness in terms of trying to identify the variables related to success. First, research on implicit leadership theories suggests that perceivers have cognitive prototypes of what characteristics (i.e. charisma, masculinity, intelligence, strength, etc.) an ideal leader should have (Keller, 1999). We will tend to consider those individuals who are a close match to our prototype to be good leaders. Second, Path-Goal theory suggests that leaders have the responsibility to assist subordinates in reaching their goals by helping to outline and clarify the path to those goals, thereby leading to rewards and personal satisfaction for the subordinate (House, 1996). Third, Leader-Member Exchange (LMX) theory suggests that leaders develop different relationships with each subordinate depending on the needs of the individual (Schriesheim, Castro, & Cogliser, 1999). Fourth, Charismatic and Transformational Leadership theories suggest that followers will be motivated to go above and beyond what is expected of them, thereby transcending their own self-interest, because of the trust and admiration felt towards the leader (Yukl, 1999). Fifth, the Contingency

model suggests that leadership effectiveness has three components: 1) a leader's attributes, which can take on a task or relationship motivational orientation, 2) a leader's situational control, and 3) the outcome variables of leadership effectiveness (Ayman, Chemers, & Fiedler, 1995). Finally, the Trait approach considers leaders' innate personality characteristics that are stable over time and tries to identify which traits are important for leadership success. Overall, these studies have primarily focused on leadership effectiveness and identifying the variables (i.e. personality, behavioral, relational, etc.) related to effective leadership.

Historically, researchers have tried to describe the relation between personality characteristics and leadership effectiveness (Stogdill, 1948; House, 1977), as well as the development of these characteristics over time (Bentz, 1967; Howard & Bray, 1990). Although leadership *effectiveness* has been in the spotlight for quite some time, little research has focused on leadership *failure*. More recent studies have become interested in looking at leadership failure and identifying which characteristics are necessary for success, if the absence of certain characteristics can hinder success, and which characteristics (if present) can lead to failure. In describing *failure*, the term "derailed" manager has been applied to a person who leaves the organization involuntarily (e.g. being fired) or is unable to progress in a leadership role due to the lack of fit between personal characteristics and the demands of the job (Leslie & Van Velsor, 1996).

*Early Derailment Research.* Bentz (1967) was the first to look at derailment in terms of identifying associated factors. In a longitudinal study of management succession, Bentz spent 30 years at Sears & Roebuck trying to uncover the relationship between measured

psychological characteristics and leadership effectiveness. He found that a certain cluster of characteristics was common across successful managers, such as persuasiveness, social assurance, ambition, initiation, energy, mental ability, and need for status, power and money. However, Bentz (1967) was the first to take a closer look at those managers who failed in the leadership role. He found that derailed managers also had several factors in common. They all lacked certain positive personality characteristics, such as emotional stability and social skills. For example, a manager might not be a successful leader if he or she lacks the ability to delegate tasks. Bentz interviewed the derailed Sears executives and identified seven personality deficiencies common across failed managers. These deficiencies included the inability to delegate or prioritize, being reactive rather than proactive, having poor judgment, being a slow learner, and having an overriding personality defect or character flaw that alienated subordinates, thus preventing them from building a team. This final deficiency suggested that lacking certain positive qualities may not be the only reason for failure. In fact, this idea led to further research on negative personality characteristics and their relation to leadership failure.

*A Closer Look at Derailment.* Although research on derailment was virtually nonexistent during the 1970's, McCall & Lombardo (1983) reopened the topic for further investigation by proposing that effective leadership not only requires the presence of positive personality characteristics, but also the absence of negative traits. By interviewing 40 senior executives (half of which were successful managers, while the other half were derailed), the researchers found that the common thread for failed managers were specific performance problems, insensitivity to others, failure to delegate or build a team, and overdependence on a

single advocate or mentor. This initial research study was conducted by the Center for Creative Leadership (CCL) in Greensboro, North Carolina and later extended in several ways by other researchers at CCL over the course of 10 years. First, since the original study only involved male subjects, the study was replicated by Morrison et al. (1987) to collect data on female managers and identify the factors associated with derailment for this target population. The common threads found for derailed female managers were:

1. The inability to adapt – not being able to adjust to changes such as new job expectations, a new boss, culture change, etc. Also includes problems facing reality and accepting criticism.
2. Performance problems – examples include being promoted into positions that they could not handle successfully, not meeting the expectations of superiors, reaching for quick answers, causing a loss of money for the company due to mistakes, or maintaining the business without any growth.
3. Being overly ambitious – wanting too much in terms of requesting perks, advancements, or a bigger salary. Self interest is priority over team goals.
4. Other factors include - inability to lead subordinates or to be strategic, presenting a poor image, and having poor relationships in the workplace.

Although no specific conclusions were drawn as to the differences between derailment factors found for men and women, it is possible to take a closer look at the factors found among both genders and find similarities (e.g. performance problems) as well as some differences (e.g. men are insensitive to others, women are overly ambitious). Further research should test both male and female managers jointly in order to draw statistically

validated conclusions regarding the differences found.

Second, Lombardo and McCauley (1988) conducted a factor analysis on the questionnaire from the original study, using performance ratings from the managers' superiors. The resulting analysis grouped the original categories into 6 scales: problems with interpersonal relationships, difficulty in molding a staff, difficulty in making strategic transitions, lack of follow-through, overdependence, and strategic differences with management.

Finally, Leslie and Van Velsor (1996) expanded the original study by collecting fresh data to see if the factors found previously would still appear in the current study, if any new factors would emerge, or if the factors would differ between U.S. and European managers. Across both samples of managers, a total of 10 personality flaws were found to contribute to leadership derailment. These flaws included poor working relations, the inability to develop or adapt, inability to build and lead a team, being promoted into positions that he/she is not prepared to handle successfully, being too ambitious, poor performance, authoritarian leadership style, too narrow functional orientation, conflict with upper management, and organizational isolation. Thus, most factors found previously were also found in Leslie and Van Velsor's study, with a few exceptions (e.g. overdependence on a single advocate, presenting a poor image, making strategic decisions, and lack of follow-through). In addition, several new factors emerged (e.g. authoritarian leadership style, not being prepared for promotion, too narrow functional orientation, conflict with management, and organizational isolation). In comparing the samples of U.S. and European derailed managers, the top two factors for both groups were poor working relations and the inability to develop

or adapt. In other words, over 50% of cases across both samples mentioned these two factors as the leading cause of derailment. However, one key difference was found. One derailment factor, organizational isolation, was found only in the European sample. Managers with this flaw were described as people who placed boundaries around their unit, department, or function. Finally, in comparing the derailment themes over time and across studies at CCL, four dominant derailment themes persisted:

1. Problems with interpersonal relationships
2. Failure to meet business objectives
3. Inability to build and lead a team
4. Inability to change or adapt during a transition.

These themes can be viewed as reflecting not only the lack of certain positive qualities, but also the presence of negative personality traits. For example, problems with interpersonal relationships might be due to excessive emotion, selfishness, authoritarian leadership style, or extreme sensitivity to criticism. Compared to a weaker manager who lacks certain positive qualities, a manager who possesses specific negative personality traits may have more opportunity to cause harm in a leadership role. Such a manager might cause substantially more damage in the long run, possibly alienating subordinates, losing the support of the team, slowing productivity, and ultimately leading to career derailment for the manager and adverse consequences for the organization (Hogan, Raskin, & Fazzini, 1990).

The most recent research on this phenomenon is discussed in terms of the “dark side” approach (Hogan, Raskin, & Fazzini, 1990). When measuring personality, many of the available assessment tools focus primarily on measuring positive or normal personality traits.

For example, the five-factor model, commonly known as the Big Five, is a popular model for normal personality that serves as a basis for other widely used personality measurement scales (e.g. NEO-Personality Inventory – Revised). The Big Five has gained acceptance as a comprehensive model of normal human personality because other five factor solutions to personality have been identified by a number of different researchers (Matthews & Deary, 1998). Although the five factors may have different labels depending on the study, they essentially have the same meaning. The idea is that the five broad dimensions subsume hundreds of narrower trait terms, but are generally independent of each other. The five factors are commonly labeled Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Openness. Although it is possible that the Big Five may be able to capture some aspects of personality disorder, combined studies of normal and abnormal personality traits show only a partial overlap of traits, indicating that a normal personality measurement tool will not fully account for personality disorder variance (Matthews & Deary, 1998).

The current study assumes that being an effective leader not only requires the presence of positive qualities, but also the absence of “dark side” traits – irritating tendencies that alienate subordinates and interfere with the ability to build a team (Hogan, Curphy, & Hogan, 1994). The idea is that certain charismatic leaders can rise to the top of organizations based on well-developed social skills and attractive interpersonal style, but have minimal real leadership skill. These leaders may be very well liked by their associates, making it difficult for coworkers or superiors to acknowledge their weaknesses. Thus, they may continue to rise in the organization, hiding their personality flaws behind social graces, only to derail after time, once their flaws are discovered. Unfortunately, the damage caused along the way can

be extensive and the potential cost to the organization can be immense (Hogan, Raskin, & Fazzini, 1990). Although the following speculations are only based on a small amount of original data, Hogan et al. (1990) postulate three types of managers that are able to rise in an organization by masking the negative personality flaws with social graces:

1. High Likeability Floater: very congenial and attractive, well liked by others, but score low on ambition, thus accomplishing very little along the way in terms of meeting performance and career advancement goals. In research using the Hogan Personality Inventory (HPI; Hogan & Hogan, 1986), an instrument designed to assess the Big Five dimensions, one particular pattern of scores was common for “executive nonperformance,” which was high scores for Likeability (Agreeableness) and average to low scores for Ambition (Extraversion) in an otherwise normal profile.
2. Hommes de Ressentiment: beneath the charm and composure, this manager is hypothesized to be holding a strain of resentment and hostility, with a desire for revenge – tendencies present in paranoid and passive-aggressive personality disorders. Jones (1988) believed the DSM-III, Axis 2 categories were complex, overlapping, and heterogeneous, and developed an inventory (Inventory of Personality Disorders – IPD) to assess these personality disorders which consisted of a homogeneous set of subscales, one of which was called “resentment” and was based on scales for the Paranoid and Passive-Aggressive disorders.
3. Narcissists: talent for self-presentation, ability to create favorable impressions, will self-promote into leadership roles looking for recognition. Flaws include

feelings of entitlement and exemption from social demands, controlling and manipulative of others, intolerance to criticism, and exploit others for self-advancement and recognition. Recent research on narcissism, using the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979, 1981) show a persistent and large relationship between measures of narcissism and characteristics that typify aggressive managers, athletic coaches, military commanders, and political leaders.

Hogan et al. (1990) did not support the idea of the three proposed manager types through any specific statistical method. Instead, they used a small amount of original data, as mentioned in the descriptions of the proposed manager types, to reach conclusions in support of their hypotheses regarding the proposed manager types. This presents a problem in that the original data used to back these claims may not be sufficient to support the hypotheses. For example, the data used to support the proposed 'High Likeability Floater' are based on the Hogan Personality Inventory (HPI; Hogan, 1986), without including any information on the validity of this measure. Similarly, the data used to support the proposed 'Hommes de Ressentiment' is based on the Inventory of Personality Disorders (IPD; Jones, 1988), without including any information on the validity of this measure, as well. Thus, the question remains as to whether these three manager personality types actually exist.

Unfortunately, these dark side characteristics may be difficult to detect using interviews or inventories of normal personality because it has been proposed that these negative traits tend to coexist with high levels of self-esteem and well-developed social skills (Hogan et al., 1990; Hogan & Hogan, 2001). Thus, an individual may have an otherwise

normal set of personality characteristics, but also have the presence of a dark side trait that can only be detected by direct measurement of that flaw. In addition, the negative flaws are hypothesized to cause performance problems only after the leader has been in a position for a while, making it difficult to detect these traits initially (Hogan et al., 1994). Thus, a next logical step is the development of the assessment tools needed to measure these dark side traits.

*Dark Side Trait Assessment.* Hogan and Hogan (2001) addressed this issue by conducting a comprehensive literature review to identify common personality traits underlying career derailment across studies, and to develop a measure called the Hogan Development Survey (HDS; Hogan & Hogan 1997) for assessing these flaws. During the literature review, strong parallels were found (in Hogan & Hogan's judgment) between the themes uncovered by previous researchers and the taxonomy of clinical disorders from the DSM-IV, Axis 2 personality disorders. Thus, Hogan and Hogan took the 11 recurring derailment themes and aligned them with the personality disorders listed in the DSM-IV (see Appendix A). In the construction of the HDS measure, the 11 themes were conceptualized as dimensions so that subjects may have high or low scores on any trait. According to the *HDS Manual* (Hogan & Hogan, 1997), the average internal consistency across HDS scales was .67, while the average test-retest reliability (N = 60) over a 3-month interval was .75. In addition, the average scale score was similar across gender, racial/ethnic groups, and age. Other analyses suggested that the 11 scales were not independent dimensions, but frequently covaried as behavioral syndromes. The principle components analyses of the HDS scale intercorrelations found 3 components that accounted for 62% of the variance in the matrix.

Thus, the 11 themes were collapsed further into 3 higher order factors that Hogan and Hogan (2001, p. 43) described in terms of profiles that were characterized by the tendency to “blow up, show off, or conform when under pressure.” In addition, these three factors were noted by Hogan and Hogan (2001, p. 43) to correspond with Horney’s (1950) taxonomy of interpersonal motives, which described the behaviors of “moving away from people,” “moving against people,” or “moving toward people.”

Although Hogan and Hogan (2001) have identified 11 derailment factors in the literature and proposed that these traits parallel the DSM-IV, Axis 2 personality disorders, more empirical research is needed to specifically and fully validate this proposal. Further, no empirical research has investigated the existence of specific configurations of “dark” traits and their relations with leadership performance.

Such an investigation requires a pattern-oriented methodology. Previous studies that have proposed a pattern of characteristics have used a variable-oriented approach that only assesses the relations among variables across a sample of individuals (e.g., Hogan & Hogan, 2001). Unfortunately, the limitation of this method is that if a relationship exists between any two factors, then it must be present for most of the sample for the results to be considered significant. In contrast, a pattern-oriented approach focuses on the individual and finds groups of people who share the same set of characteristics and measures the outcomes for those groups in terms of a dependent variable. In other words, this approach allows the identification of homogenous groups whereby the group membership becomes a means of comparison on any number of criterion measures. People are viewed in terms of their pattern of characteristics, rather than the relations among those characteristics.

Gustafson and Ritzer (1995) successfully utilized a pattern-oriented methodology to confirm the existence of a pattern of personality characteristics known as “aberrant self-promotion” that they considered a subclinical level of psychopathy. From the pattern-oriented framework, the focus was on multivariate patterns that not only characterized the individuals but were persistent over time. A variable-oriented method would not have been suitable to answer the same types of research questions as the focus would have been on the variables instead of the person as a whole.

For the purposes of this study, examination of managerial incompetence required the consideration of derailment factors and their contribution to leadership performance. The criterion here was aggregated performance ratings obtained from a group of individuals who were currently working with the subjects, or had worked with the subjects in the recent past. These raters included subordinates, peers, supervisors, and any other individual who worked with the subject in some manner prior to the investigation. According to Hogan et al. (1994), this multisource feedback provides the most comprehensive information regarding managers’ performance. Self-ratings alone do not provide a clear picture of performance due to the biases that individuals have about their own performance. In addition, superiors’ ratings alone may only reflect how well managers perform against their business objectives, but may not take into consideration the effectiveness of the team as a whole. Lastly, subordinate ratings, as well as peer ratings, may be biased in terms of how well-liked managers are by their team or coworkers, regardless of how productive the teams are under the direction of the managers. Thus, obtaining feedback from multiple sources should provide a more accurate and comprehensive description of managers’ performance in leadership roles.

Empirical research has found that these sources of information are correlated and the evaluations as a whole are moderately but significantly related to team performance (Campbell, 1991; Harris & Hogan, 1992).

*Research Questions.* In summary, Hogan and Hogan (2001) identified 11 personality dimensions thought to underlie career derailment. However, no previous research has investigated the relations between these personality dimensions and leadership effectiveness with a pattern-oriented methodology. Thus, the first research question was to determine which multivariate patterns of dysfunctional personality characteristics actually occurred in the sample under study. Specifically, cluster analysis was used on Hogan and Hogan's (2001) HDS dimensions to identify subgroups with similar profiles and examined whether those profiles corresponded to any of the three higher order factors (e.g. blow up, show off, or conform when under pressure) found previously (Hogan & Hogan, 2001).

Secondly, I wished to examine whether the patterns identified differed in terms of leadership performance levels. In other words, can certain patterns of personality characteristics help predict leadership performance?

## Method

### *Overview*

To address these specific research questions, an appropriate methodology called for a cluster analysis (Aldenderfer & Blashfield, 1984). This process began by removing outliers from the data set, using average squared Euclidean distance as the dissimilarity measure. Next, the clustering process was conducted twice, using two different methods. First, a

hierarchical agglomerative method was used to establish an initial estimate of the number of clusters present in the data. Second, an iterative partitioning method was used to stabilize the assignment of cases to clusters. Finally, the subgroups found were compared in terms of the performance criterion. Because the Hogan Development Survey (HDS) is a self-report instrument and the performance ratings were collected from external observers, monosource bias was avoided.

### *Sample*

An archival database, collected in 2003 by Hogan Assessment Systems, was used for this study. The database contained data on 295 focal managers who played leadership roles for a Fortune 100 corporation in the United States. The sample was primarily Caucasian (86%) and male (88%).

### *Measures*

*Hogan Development Survey.* The HDS (Hogan & Hogan, 1997), a commercially available instrument published by Hogan Assessments, contains 11 subscales, each containing 14 items (168 total). Fourteen additional items comprised an experimental social desirability scale. The HDS measures a variety of personality traits thought to be dysfunctional in organizations, with the content themes of the scales aligned with the Axis 2 of the DSM-IV (personality disorders). Items use a dichotomous response format, with respondents asked to agree or disagree with each statement provided. The 11 themes are conceptualized as dimensions, not types; thus, subjects may have high or low scores on any dimension.

The HDS has been reviewed in multiple validation studies and has demonstrated adequate reliability and validity, as well as produced similar scores across gender, age, and racial/ethnic groups (Hogan & Hogan, 1997). Although it was not possible to estimate reliability in the current study because only scale-level scores were provided, the HDS manual reported the average internal consistency (coefficient alpha) across HDS scales to be .67. Average test-retest reliability for a sample of graduate students (N=60), over a 3-month interval, was reported to be .75 (Hogan & Hogan, 1997). Reliability estimates for each of the 11 scales are presented in Table 1.

Table 1  
*Descriptive Statistics and Reliabilities for the HDS*

| <b>Scale</b>       | <b>Number Items</b> | <b>Mean</b> | <b>SD</b> | <b>Internal Reliability</b> | <b>Test-Retest Reliability</b> |
|--------------------|---------------------|-------------|-----------|-----------------------------|--------------------------------|
| <b>Excitable</b>   | 14                  | 3.2         | 2.85      | 0.78                        | 0.87                           |
| <b>Skeptical</b>   | 14                  | 4.5         | 2.78      | 0.76                        | 0.65                           |
| <b>Cautious</b>    | 14                  | 3.3         | 2.60      | 0.73                        | 0.77                           |
| <b>Reserved</b>    | 14                  | 4.2         | 2.33      | 0.66                        | 0.59                           |
| <b>Leisurely</b>   | 14                  | 4.7         | 2.29      | 0.58                        | 0.58                           |
| <b>Bold</b>        | 14                  | 7.7         | 2.73      | 0.69                        | 0.78                           |
| <b>Mischievous</b> | 14                  | 6.1         | 2.60      | 0.59                        | 0.72                           |
| <b>Colorful</b>    | 14                  | 7.4         | 2.94      | 0.72                        | 0.85                           |
| <b>Imaginative</b> | 14                  | 5.6         | 2.54      | 0.64                        | 0.73                           |
| <b>Diligent</b>    | 14                  | 9.8         | 2.23      | 0.65                        | 0.77                           |
| <b>Dutiful</b>     | 14                  | 7.9         | 2.13      | 0.50                        | 0.73                           |

*Note.* Response coding uses a 2-point scale (0 = disagree, 1 = agree), where scores range from 0 to 14. Items are scored in the direction of the syndrome, so that higher scores represent more dysfunctional tendencies. With the exception of test-retest reliabilities, data are based on an archival sample of 2,071 adults, most being job applicants or incumbents.

The construct validity of the HDS has been extensively evaluated. Specifically, correlations have been examined between the HDS and the Hogan Personality Inventory (HPI; Hogan & Hogan, 1986), the Minnesota Multiphasic Personality Inventory (Morey, Waugh, & Blashfield, 1985), the Motives, Values, and Preferences Inventory (MVPI; Hogan & Hogan, 1996), measures of cognitive ability (e.g. Watson-Glaser Critical Thinking Appraisal, Industrial Reading Test), and 360 degree managerial performance ratings. Please refer to Tables 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, and 2.7 for specific correlation values between measures.

Table 2.1

*Correlations between HDS and Hogan Personality Inventory (HPI)*

| <b>Scales</b>      | <b>ADJ</b> | <b>AMB</b> | <b>SOC</b> | <b>LIK</b> | <b>PRU</b> | <b>INT</b> | <b>SCH</b> |
|--------------------|------------|------------|------------|------------|------------|------------|------------|
| <b>Excitable</b>   | -.76**     | -.63**     | -.18**     | -.60**     | -.66**     | -.19**     | -.50**     |
| <b>Skeptical</b>   | -.60**     | -.51**     | -.11*      | -.52**     | -.60**     | -.11*      | -.40**     |
| <b>Cautious</b>    | -.60**     | -.70**     | -.37**     | -.41**     | -.34**     | -.26**     | -.42**     |
| <b>Reserved</b>    | -.45**     | -.53**     | -.32**     | -.67**     | -.55**     | -.17**     | -.30**     |
| <b>Leisurely</b>   | -.15**     | -.26**     | -.12*      | -.28**     | -.33**     | -.13**     | -.24**     |
| <b>Bold</b>        | .08        | .28**      | .34**      | .14**      | .09        | .27**      | .34**      |
| <b>Mischievous</b> | -.05       | .12**      | .48**      | -.05*      | -.35**     | .31**      | .08**      |
| <b>Colorful</b>    | .15**      | .44**      | .67**      | .29**      | .04        | .35**      | .34**      |
| <b>Imaginative</b> | -.28**     | -.06       | .31**      | -.14**     | -.37**     | .32**      | -.01*      |
| <b>Diligent</b>    | .00        | .09        | -.14**     | .16**      | .36**      | .10*       | .08*       |
| <b>Dutiful</b>     | -.02       | -.06       | -.08       | .29**      | .33**      | -.07       | -.01       |

*Note.* ADJ = Adjustment, AMB = Ambition, SOC = Sociability, LIK = Likeability, PRU = Prudence, INT = Intellectance, SCH = School Success; \*:  $p < .05$ ; \*\*:  $p < .01$ ; one-tailed test. N=826

Table 2.2  
*Correlations between HDS and MMPI Standard Scales*

| Scales             | HS    | D     | HY    | PD    | MF    | MA    | K      | PA    | PT    | SC    | SI     |
|--------------------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|--------|
| <b>Excitable</b>   | .35** | .36** | -.03  | .60** | .06   | .32** | -.67** | .37** | .66** | .52** | .45**  |
| <b>Skeptical</b>   | .23*  | .18   | -.14  | .44** | -.03  | .36** | -.45** | .26** | .43** | .43** | .30**  |
| <b>Cautious</b>    | .30** | .43** | .05   | .32** | .15   | -.01  | -.36** | .27** | .49** | .32** | .61**  |
| <b>Reserved</b>    | .08   | .21*  | -.18* | .25** | .05   | .20*  | -.25** | .24** | .32** | .31** | .40**  |
| <b>Leisurely</b>   | .31** | .28** | -.06  | .28** | .11   | .36** | -.54** | .42** | .50** | .51** | .42**  |
| <b>Bold</b>        | .14   | -.20* | -.06  | -.01  | .03   | .44** | -.26** | .21*  | .13   | .28** | -.10   |
| <b>Mischievous</b> | .13   | -.15  | -.06  | .33** | .00   | .57** | -.43** | .31** | .29** | .37** | .01    |
| <b>Colorful</b>    | .13   | -.18  | .04   | .05   | .07   | .46** | -.15   | .15   | .07   | .16   | -.34** |
| <b>Imaginative</b> | .16   | -.09  | .04   | .26** | .30** | .52** | -.38** | .38** | .27** | .42** | .01    |
| <b>Diligent</b>    | .06   | -.15  | -.17  | -.09  | -.03  | .17   | -.13   | -.11  | -.03  | .04   | -.07   |
| <b>Dutiful</b>     | .01   | .01   | -.07  | -.17  | .12   | -.09  | -.04   | -.13  | -.04  | -.10  | -.11   |

*Note.* HS = Hypochondriasis; D = Depression; HY = Hysteria; PD = Psychopathic Deviate; MF = Masculinity-Femininity; MA = Hypomania; K = Subtle Defensiveness; PA = Paranoia; PT = Psychasthenia; SC = Schizophrenia; SI = Social Introversion; \*:  $p < .05$ , \*\*:  $p < .01$ ; one-tailed test.  $N = 140$

Table 2.3  
*Correlations between HDS and MMPI Personality Disorder Scales*

| Scales             | BDL   | PAR    | AVD   | SZD    | PAG   | NAR    | ANT    | HST    | STY   | CPS   | DEP   |
|--------------------|-------|--------|-------|--------|-------|--------|--------|--------|-------|-------|-------|
| <b>Excitable</b>   | .67** | .56**  | .43** | .23*   | .55** | .01    | .56**  | -.20*  | .49** | .57** | .29** |
| <b>Skeptical</b>   | .49** | .62**  | .21*  | .27**  | .38** | .24**  | .48**  | -.07   | .54** | .37** | .11   |
| <b>Cautious</b>    | .28** | .28**  | .60** | .29**  | .27** | -.36** | .21*   | -.38** | .33** | .32** | .27** |
| <b>Reserved</b>    | .29** | .39**  | .24** | .47**  | .25** | -.01   | .31**  | -.32** | .30** | .16   | .09   |
| <b>Leisurely</b>   | .43** | .58**  | .38** | .38**  | .46** | .07    | .36**  | -.33** | .61** | .48** | .21*  |
| <b>Bold</b>        | .28*  | .35**  | .02   | -.06   | .24*  | .55**  | .10    | .21*   | .35** | .17   | -.05  |
| <b>Mischievous</b> | .44** | .47**  | .05   | .03    | .49** | .38**  | .45**  | .14*   | .39** | .31** | .03   |
| <b>Colorful</b>    | .16   | .17    | -.19* | -.32** | .22*  | .53**  | .14    | .51**  | .12   | .17   | -.06  |
| <b>Imaginative</b> | .32** | .43**  | .07   | .10    | .41** | .37**  | .27**  | .18    | .49** | .30** | .01   |
| <b>Diligent</b>    | .14   | .03    | .05   | .01    | .03   | .17    | -.03   | .13    | .11   | .14   | -.11  |
| <b>Dutiful</b>     | -.03  | -.24** | .03   | -.30** | -.06  | -.11   | -.27** | .21*   | -.07  | .00   | .07   |

*Note.* BDL = Borderline; PAR = Paranoid; AVD = Avoidant; SZD = Schizoid; PAG = Passive Aggressive; NAR = Narcissistic; ANT = Antisocial; HST = Histrionic; STY = Schizotypal; CPS = Compulsive; DEP = Dependent; \*  $p < .05$ ; \*\*:  $p < .01$ ; one-tailed test.  $N = 140$

Table 2.4

*Correlations between HDS and the Motives, Values, Preferences Inventory*

| Scales             | AES   | AFF    | ALT    | COM    | HED   | POW    | REC    | SCI    | SEC    | TRA    |
|--------------------|-------|--------|--------|--------|-------|--------|--------|--------|--------|--------|
| <b>Excitable</b>   | .01   | -.38** | -.09** | -.15** | .15** | -.07*  | .10**  | -.08*  | .14**  | .00    |
| <b>Skeptical</b>   | .07*  | -.11** | -.04   | .10**  | .35** | .26**  | .33**  | .09**  | .10**  | -.04   |
| <b>Cautious</b>    | -.04  | -.41** | -.01   | -.21** | .12** | -.18** | -.02   | -.13** | .23**  | .06    |
| <b>Reserved</b>    | .02   | -.63** | -.27** | -.10** | .03   | -.09** | -.04   | .05    | .09**  | -.06*  |
| <b>Leisurely</b>   | .02   | -.15** | .00    | .04    | .24** | .14**  | .19**  | .00    | .16**  | .04    |
| <b>Bold</b>        | .16** | .26**  | .10**  | .42**  | .15** | .57**  | .51**  | .25**  | .00    | .05    |
| <b>Mischievous</b> | .20** | .28**  | .04    | .22**  | .32** | .47**  | .43**  | .19**  | -.34** | -.16** |
| <b>Colorful</b>    | .26** | .40**  | .04    | .26**  | .22** | .42**  | .52**  | .17**  | -.31** | -.09** |
| <b>Imaginative</b> | .33** | .14**  | .08*   | .13**  | .23** | .31**  | .37**  | .24**  | -.29** | -.07*  |
| <b>Diligent</b>    | -.03  | -.02   | .21**  | .18**  | -.04  | .15**  | -.01   | .20**  | .39**  | .28**  |
| <b>Dutiful</b>     | -.02  | -.01   | .27**  | .00    | .02   | -.17** | -.10** | -.07*  | .25**  | .14**  |

*Note.* AES = Aesthetic; AFF = Affiliation; ALT = Altruistic; COM = Commercial; HED = Hedonistic; POW = Power; REC = Recognition; SCI = Science; SEC = Security; TRA = Tradition; \*:  $p < .05$ ; \*\*:  $p < .01$ ; one-tailed test.  $N = 735$

Table 2.5

*Correlation between HDS and Watson-Glaser Critical Thinking Appraisal (cognitive ability)*

| Scales               | EXC | SKE | CAU  | RES | LEI  | BOL | MIS   | COL   | IMA | DIL   | DUT |
|----------------------|-----|-----|------|-----|------|-----|-------|-------|-----|-------|-----|
| <b>Watson-Glaser</b> | .01 | .06 | -.02 | .12 | -.15 | .09 | .25** | .32** | .03 | -.20* | .07 |

*Note.* EXC = Excitable; SKE = Skeptical; CAU = Cautious; RES = Reserved; LEI = Leisurely; BOL = Bold; MIS = Mischievous; COL = Colorful; IMA = Imaginative; DIL = Diligent; DUT = Dutiful; \*:  $p < .05$ ; \*\*:  $p < .01$ ; one-tailed test.  $N = 125$

Table 2.6

*Correlation between HDS and Industrial Reading Test (cognitive ability)*

| Scales                         | EXC | SKE | CAU | RES | LEI  | BOL | MIS  | COL  | IMA | DIL   | DUT |
|--------------------------------|-----|-----|-----|-----|------|-----|------|------|-----|-------|-----|
| <b>Industrial Reading Test</b> | .06 | .11 | .04 | .13 | -.03 | .08 | .18* | .22* | .06 | -.09* | .14 |

*Note.* EXC = Excitable; SKE = Skeptical; CAU = Cautious; RES = Reserved; LEI = Leisurely; BOL = Bold; MIS = Mischievous; COL = Colorful; IMA = Imaginative; DIL = Diligent; DUT = Dutiful; \*:  $p < .05$ ; \*\*:  $p < .01$ ; one-tailed test.  $N = 90$

Table 2.7  
*Correlation between HDS and Observers' Description Ratings*

| Observers's Description Item           | r    | Observers's Description Item          | r    |
|--|------|---------------------------------------|------|
| <b>Excitable</b>                       |      | <b>Reserved</b>                       |      |
| Yells at people for making mistakes    | .30  | Enjoys meeting new people             | -.21 |
| Expresses emotions appropriately       | -.30 | Is self-centered                      | .19  |
| Is easily upset                        | .29  | Is kind                               | -.18 |
| Follows company policy                 | -.29 | Needs reassurance                     | -.18 |
| Is self-doubting                       | .28  | Is socially inept                     | .17  |
| Is fault finding                       | .27  | Is considerate                        | -.15 |
| Is tense                               | .27  | Does not follow company policy        | -.15 |
| Is calm                                | -.27 | Is accommodating                      | -.15 |
| Is moody                               | .26  | <b>Leisurely</b>                      |      |
| Is predictable                         | -.24 | Enjoys meeting new people             | -.19 |
| Accepts feedback well                  | -.22 | Delegates tasks appropriately         | .19  |
| Is quick to become angry               | .21  | Tests the limits                      | -.17 |
| <b>Skeptical</b>                       |      | Feels mistreated                      | .16  |
| Is not easily disappointed             | -.28 | Is practical                          | -.16 |
| Needs attention                        | .28  | Encourages constructive criticism     | -.15 |
| Feels mistreated                       | .26  | Questions people's loyalty            | .15  |
| Is easily hurt by criticism            | .25  | Is resentful                          | .15  |
| Is tense                               | .24  | <b>Bold</b>                           |      |
| Is easily upset                        | .23  | Is self-restrained                    | -.22 |
| Is fault finding                       | .21  | Is a follower                         | -.20 |
| Is unassuming                          | -.21 | Is easy going                         | -.20 |
| Is uninterested in close relationships | -.20 | Is content with self-image            | .19  |
| Questions people's loyalty             | .19  | Is self-promoting                     | .17  |
| <b>Mischievous</b>                     |      | Acts in a socially appropriate manner | .17  |
| Is deceitful                           | .17  | Tests the limits                      | .17  |
| Is arrogant                            | .17  | Holds grudges                         | -.17 |
| Is a follower                          | -.16 | Sociable                              | .15  |
| Is unassuming                          | -.16 | <b>Imaginative</b>                    |      |
| Acts in a socially appropriate manner  | .16  | Engages in horseplay                  | .22  |
| Is independent                         | .16  | Is self-restrained                    | -.20 |
| Is flighty                             | .15  | Is socially insightful                | .20  |
| Tests the limits                       | .14  | Is predictable                        | -.18 |
| <b>Colorful</b>                        |      | Is the "life of the office"           | .18  |
| Tests the limits                       | .27  | Is imaginative                        | .17  |
| Is self-restrained                     | -.24 | Has odd attitudes                     | .17  |
| Is quiet                               | -.24 | Is eccentric                          | .16  |
| Questions people's loyalty             | -.24 | Is calm                               | -.16 |
| Is innovative                          | .23  | Is flighty                            | .15  |
| Is a follower                          | -.21 | Is innovative                         | .15  |
| Is a smooth talker                     | .21  | <b>Diligent</b>                       |      |
| Is quick to become angry               | .20  | Is detail-oriented                    | .22  |
| Is socially insightful                 | .19  | Is polite                             | .20  |

Table 2.7 (continued)

| Observers's Description Item     | r    | Observers's Description Item           | r    |
|----------------------------------|------|--|------|
| Is the "life of the office"      | .17  | Is uninterested in close relationships | -.17 |
| Is detail-oriented               | -.17 | Is perfectionistic                     | .15  |
| Is reserved                      | -.16 | Is organized                           | .15  |
| <b>Cautious</b>                  |      | <b>Dutiful</b>                         |      |
| Is self-doubting                 | .28  | Is predictable                         | .15  |
| Is rational                      | -.25 | Is a follower                          | .15  |
| Is consistent                    | .20  | Is unassuming                          | .14  |
| Expresses emotions appropriately | -.20 | Makes own decisions                    | -.13 |
| Enjoys meeting new people        | -.19 | Is empathetic                          | .13  |
| Feels inadequate                 | .18  | Is indecisive                          | .13  |
| Is content with self-image       | -.17 | Is nonconforming                       | -.13 |
| Is anxious                       | .17  | Is self-restrained                     | .13  |
| Is uneasy around new people      | .17  | Is rude                                | -.13 |

Note.  $R \geq 13$ ;  $p < .05$ ; one-tailed test.  $N = 193$

*Multisource Performance Ratings.* The archival database also contained multisource (360 degree) leadership performance ratings for each manager. The performance criterion measure contained 54 items, assessing four leadership factors, labeled Business, Results, People, and Self. In addition, the tool also measured 11 interpersonal factors that were averaged to create a single nonleadership performance criterion. For a list and description of these dimensions, see Appendix I. Ratings were collected from the participants' immediate supervisors, as well as from a composite group of raters consisting of peers, subordinates, and other individuals who had observed the participants' job performance at some time prior to the investigation. The current study used a single aggregated rater variable, which is the average score on each performance dimension across all four rater perspectives.

*Computer Software.* All cluster analyses were conducted using the SLEIPNER computer program (Bergman & El-Khoury, 1998). All other analyses and data manipulation were accomplished through the PC-SAS computer program (SAS institute, 1994).

### *Procedure*

*Cluster Analysis.* Cluster analysis was used to identify homogenous groups with similar patterns of scores on the HDS dimensions of personality. The average squared Euclidean distance was used as the index of similarity between profiles because it assesses all three components of pattern similarity: shape, level, and scatter (Cronbach & Gleser, 1953). The 11 HDS variables were converted to z scores prior to clustering so that HDS scales with greater variability would not disproportionately affect the cluster solution found. Because a few individuals will usually fail to fit neatly into a parsimonious taxonomy of profiles, outliers were removed from the data set before analysis. Then, cluster analyses were conducted twice, by way of two different methods. First, Ward's (1963) "minimum variance" method of hierarchical agglomerative clustering was used to determine the number of clusters present in the data and to establish initial assignments of individuals to clusters. Ward's method selects individuals to group together to produce the smallest possible increase in the total error sum of squares (ESS) for the overall cluster solution. The ESS increase resulting from each successive addition of a case to a cluster was graphed and used as a visual representation of how many clusters may have existed within the data set. The inflection point where the curve flattens indicates a disproportionate increase in ESS due to two dissimilar cases being combined. The optimal number of clusters is then indicated by

the number just *before* the fusion that generated the disproportionate increase in ESS. Second, an iterative partitioning (“k means”) method was used to compensate for centroid drift, which can occur in Ward’s (1963) procedure because cluster means (centroids) are not recalculated after each fusion. This procedure treated the number of clusters derived from Ward’s method as fixed, but re-evaluated each case’s assignment to its cluster. If the total error variance of the cluster solution could be reduced by relocating an individual case, the case was moved. Then, the centroids were recalculated and the process was repeated iteratively until no more cases were relocated.

*Multivariate Analysis of Variance.* A multivariate analysis of variance (MANOVA) was used to determine whether the clusters differed significantly in terms of leadership performance as rated on the 360 instrument. Thus, the independent variable was the cluster membership, which had seven levels (clusters 1 – 7). The dependent variables were the two performance scores (interpersonal and leadership).

## Results

### *Descriptive Statistics*

The HDS descriptive statistics and correlation coefficients between dimensions are presented in Table 3. Because the HDS measures negative behavior characteristics, higher HDS scores indicate a more negative profile. HDS scores above 40 are considered “elevated” and scores above 90 are considered “extreme” (Hogan & Hogan, 1997). In this sample of managers, HDS mean scores ranged from 39.81 (Leisurely) to 64.33 (Diligent) with standard deviations ranging from 24.40 (Cautious) to 27.11 (Bold). Inter-scale

correlations were moderate, with coefficients between  $r = -.21$  (Colorful & Cautious) and  $r = .48$  (Colorful & Bold). The descriptive statistics for the criterion measures are presented in Table 4, and are based on aggregated scores across rater perspectives. Average aggregated performance scores ranged from 3.94 (Trusting) to 4.54 (Self) with standard deviations between .30 (Dependable & Self) and .44 (Trusting). Inter-scale correlations were also moderate and ranged from .40 (Independent & Fair-Minded) to .85 (Results & Communicative, Modest & Fair-Minded, and People & Business).

Table 3  
*Intercorrelations Between Subscales on HDS*

|                       | <b>M</b> | <b>SD</b> | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>7</b> | <b>8</b> | <b>9</b> | <b>10</b> | <b>11</b> |
|-----------------------|----------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|
| <b>1. Excitable</b>   | 50.56    | 25.65     | ---      | .39      | .32      | .34      | .11      | .18      | .18      | -.03     | .21      | .06       | .01       |
| <b>2. Skeptical</b>   | 55.07    | 24.64     |          | ---      | .18      | .27      | .25      | .46      | .42      | .20      | .31      | .06       | -.10      |
| <b>3. Cautious</b>    | 45.72    | 24.40     |          |          | ---      | .32      | .28      | .01      | .05      | -.21     | .05      | .06       | .17       |
| <b>4. Reserved</b>    | 48.20    | 26.41     |          |          |          | ---      | .04      | .06      | .06      | -.17     | .09      | -.06      | -.18      |
| <b>5. Leisurely</b>   | 39.81    | 26.05     |          |          |          |          | ---      | .23      | .16      | .11      | .14      | .16       | .01       |
| <b>6. Bold</b>        | 63.31    | 27.11     |          |          |          |          |          | ---      | .40      | .48      | .39      | .08       | .00       |
| <b>7. Mischievous</b> | 58.21    | 25.17     |          |          |          |          |          |          | ---      | .41      | .34      | -.06      | -.06      |
| <b>8. Colorful</b>    | 57.09    | 25.29     |          |          |          |          |          |          |          | ---      | .30      | .03       | .07       |
| <b>9. Imaginative</b> | 57.41    | 25.23     |          |          |          |          |          |          |          |          | ---      | .02       | .08       |
| <b>10. Diligent</b>   | 64.33    | 25.44     |          |          |          |          |          |          |          |          |          | ---       | .18       |
| <b>11. Dutiful</b>    | 48.04    | 26.39     |          |          |          |          |          |          |          |          |          |           | ---       |

*Note.* Correlation coefficients above  $r = .11$  are significant at  $p < .05$ ;  $N = 268$

Table 4  
*Intercorrelations Between Subscales on Performance Criterion – Across Raters*

|                  | M    | SD   | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  |
|------------------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1. Resilient     | 4.29 | 0.38 | --- | .65 | .70 | .68 | .64 | .59 | .70 | .65 | .69 | .58 | .66 | .73 | .77 | .70 | .77 |
| 2. Trusting      | 3.94 | 0.44 |     | --- | .47 | .61 | .55 | .74 | .60 | .69 | .50 | .49 | .43 | .52 | .63 | .43 | .62 |
| 3. Adaptable     | 4.44 | 0.36 |     |     | --- | .66 | .65 | .45 | .67 | .55 | .71 | .62 | .76 | .79 | .70 | .73 | .70 |
| 4. Communicative | 4.35 | 0.38 |     |     |     | --- | .73 | .73 | .74 | .73 | .72 | .64 | .64 | .72 | .86 | .68 | .72 |
| 5. Cooperative   | 4.37 | 0.35 |     |     |     |     | --- | .64 | .80 | .73 | .70 | .65 | .65 | .75 | .74 | .81 | .71 |
| 6. Fair-minded   | 4.35 | 0.43 |     |     |     |     |     | --- | .66 | .86 | .57 | .53 | .42 | .54 | .71 | .46 | .69 |
| 7. Dependable    | 4.44 | 0.30 |     |     |     |     |     |     | --- | .77 | .78 | .69 | .71 | .80 | .78 | .82 | .80 |
| 8. Modest        | 4.30 | 0.36 |     |     |     |     |     |     |     | --- | .65 | .58 | .55 | .67 | .74 | .64 | .75 |
| 9. Judgment      | 4.45 | 0.36 |     |     |     |     |     |     |     |     | --- | .70 | .76 | .81 | .81 | .81 | .75 |
| 10. Empowering   | 4.24 | 0.32 |     |     |     |     |     |     |     |     |     | --- | .65 | .75 | .70 | .71 | .62 |
| 11. Independent  | 4.39 | 0.34 |     |     |     |     |     |     |     |     |     |     | --- | .77 | .71 | .78 | .70 |
| 12. Business     | 4.37 | 0.33 |     |     |     |     |     |     |     |     |     |     |     | --- | .81 | .85 | .77 |
| 13. Results      | 4.27 | 0.35 |     |     |     |     |     |     |     |     |     |     |     |     | --- | .78 | .80 |
| 14. People       | 4.37 | 0.35 |     |     |     |     |     |     |     |     |     |     |     |     |     | --- | .76 |
| 15. Self         | 4.54 | 0.30 |     |     |     |     |     |     |     |     |     |     |     |     |     |     | --- |

*Note.* All correlation coefficients are significant at  $p < .05$ ;  $N = 268$

Finally, Table 5 shows correlation coefficients between HDS scales and the criterion dimensions. Across scales, the Excitable, Mischievous, Cautious, and Imaginative scales yielded the most consistent validity coefficients, whereas the Colorful, Reserved, Diligent, Dutiful, and Bold scales showed the weakest validity. Overall, correlations ranged from  $r = -.28$  (Mischievous & Dependable) to  $r = .09$  (Diligent & Adaptable, Dutiful & Cooperative, and Dutiful & Dependable). Although there were some significant correlations found, all of the correlation coefficients were low when considered in terms of effect size. Overall, this indicates that the HDS scale may not predict leadership performance very well when used in the traditional variable-oriented manner. Although the HDS has previously demonstrated adequate psychometric characteristics in terms of internal consistency, test-retest reliability, and construct validity, support for criterion-related validity is somewhat weaker. Using a pattern-oriented approach, we were able to statistically test for this type of validity and found

that the HDS may not be the best measure to predict leadership performance. This problem should be addressed before relying on the HDS as a valid measure in future research.

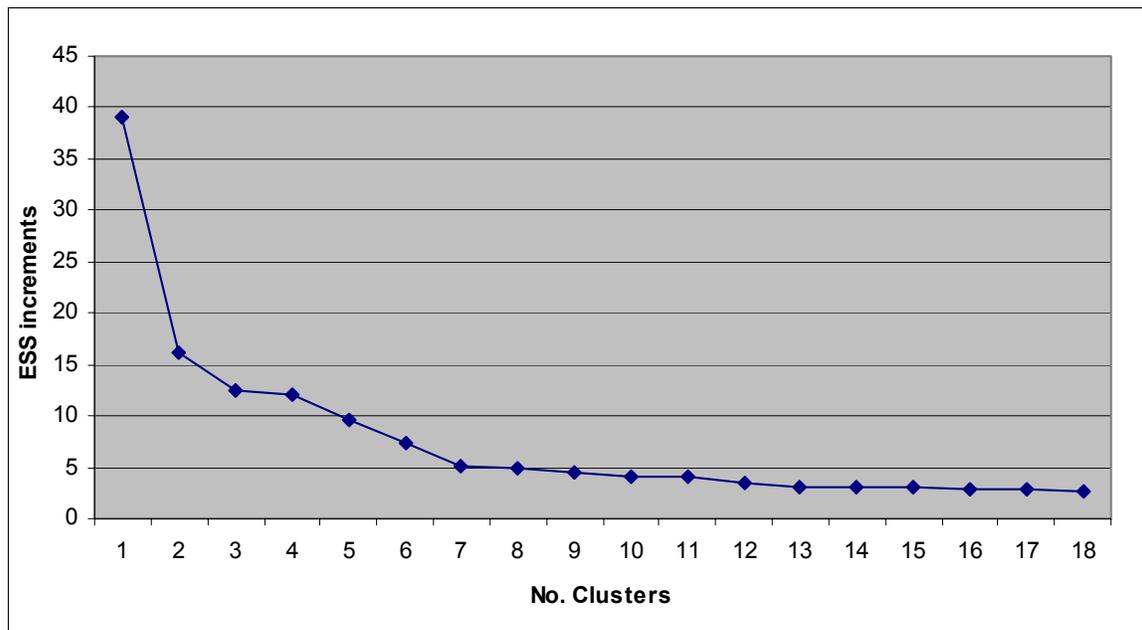
Table 5  
*Correlations between HDS and Performance Criterion scales*

|                      | EXC    | SKE    | CAU    | RES   | LEI    | BOL    | MIS    | COL   | IMA    | DIL   | DUT   |
|----------------------|--------|--------|--------|-------|--------|--------|--------|-------|--------|-------|-------|
| <b>Resilient</b>     | -0.26* | -0.18* | -0.22* | -0.10 | -0.12  | -0.13* | -0.26* | -0.11 | -0.20* | 0.07  | -0.03 |
| <b>Trusting</b>      | -0.16* | -0.12  | -0.12* | -0.09 | -0.02  | -0.11  | -0.19* | -0.11 | -0.15* | 0.01  | 0.02  |
| <b>Adaptable</b>     | -0.24* | -0.12* | -0.25* | -0.06 | -0.17* | -0.06  | -0.13* | 0.00  | -0.10  | 0.09  | -0.01 |
| <b>Communicative</b> | -0.15* | -0.11  | -0.18* | -0.07 | -0.04  | -0.03  | -0.17* | -0.05 | -0.05* | -0.01 | 0.04  |
| <b>Cooperative</b>   | -0.16* | -0.11  | -0.06  | -0.04 | -0.05  | -0.08  | -0.23* | -0.09 | -0.19* | 0.08  | 0.09  |
| <b>Fair-minded</b>   | -0.17* | -0.10  | -0.08  | -0.11 | -0.02  | -0.04  | -0.20* | -0.09 | -0.20* | -0.02 | 0.04  |
| <b>Dependable</b>    | -0.20* | -0.14* | -0.13* | -0.03 | -0.14* | -0.09  | -0.28* | -0.12 | -0.19* | 0.05  | 0.09  |
| <b>Modest</b>        | -0.16* | -0.13* | -0.07  | -0.05 | -0.07  | -0.04  | -0.21* | -0.08 | -0.18* | 0.06  | 0.06  |
| <b>Judgment</b>      | -0.20* | -0.10  | -0.18* | 0.01  | -0.17* | 0.01   | -0.17* | -0.02 | -0.12  | -0.01 | -0.06 |
| <b>Empowering</b>    | -0.13* | -0.01  | -0.19* | -0.02 | -0.06  | -0.02  | -0.14* | -0.06 | -0.11  | -0.04 | 0.03  |
| <b>Independent</b>   | -0.22* | -0.10  | -0.27* | -0.02 | -0.19* | -0.05  | -0.14* | -0.03 | -0.11  | 0.04  | -0.02 |
| <b>Business</b>      | -0.23* | -0.14* | -0.22* | -0.05 | -0.17* | -0.09  | -0.16* | -0.06 | -0.15* | 0.07  | 0.01  |
| <b>Results</b>       | -0.20* | -0.14* | -0.20* | -0.10 | -0.15* | -0.08  | -0.20* | -0.04 | -0.16* | 0.03  | 0.03  |
| <b>People</b>        | -0.26* | -0.20* | -0.21* | -0.07 | -0.16* | -0.10  | -0.20* | -0.04 | -0.14* | 0.06  | 0.04  |
| <b>Self</b>          | -0.24* | -0.18* | -0.18* | -0.09 | -0.18* | -0.12  | -0.22* | -0.06 | -0.14* | 0.04  | 0.03  |

*Note.* N = 268; \* $p < .05$ ; EXC = Excitable, SKE = Skeptical, CAU = Cautious, RES = Reserved, LEI = Leisurely, BOL = Bold, MIS = Mischievous, COL = Colorful, IMA = Imaginative, DIL = Diligent, and DUT = Dutiful

### *Cluster Analysis*

By default, the RESIDUE module of the SLEIPNER clustering program removes outliers if their dissimilarity from their nearest “twin” in the data set is greater than 0.5 (average squared Euclidean distance in this case). In the present data set, using this default threshold resulted in the removal of 61 cases, or 21% of the sample. Because the default threshold resulted in an undesirably large reduction in sample size, the threshold for removal was increased slightly to 0.6, resulting in 27 cases being removed (9%). Thus, 268 cases were submitted to the clustering algorithm.



*Figure 1:* Error Sum of Squares. Hierarchical Agglomerative analysis shows an estimated 7-cluster solution.

Ward's (1963) "minimum variance" method of hierarchical agglomerative clustering was used to determine the number of clusters present in the data and to establish initial assignments of individuals to clusters. Inspection of the ESS increment plot (see Figure 1) suggested that a seven cluster solution represented a reasonable compromise between within-group homogeneity (maximized with many clusters) and parsimony (maximized with few clusters).

The seven cluster solution from Ward's (1963) method was submitted to the RELOCATE module of the SLEIPNER software for centroid drift correction via iterative partitioning. "Centroid drift" is a phenomenon that can occur when using Ward's (1963) procedure because cluster means (centroids) are not recalculated after each fusion. The iterative partitioning method corrected for this problem by treating the number of clusters

derived from Ward's method as fixed and re-evaluating each case's assignment to its cluster. If the total error variance of the cluster solution could be reduced by relocating an individual case, the case was moved. Then, the centroids were recalculated and the process was repeated iteratively until no more cases were relocated. This algorithm completed four iterations, relocating 74 cases to minimize within-group variability and maximize between-group variability, thus stabilizing the assignment of cases to clusters into the final solution.

The descriptive statistics for the seven clusters are presented in Table 6. The table provides the mean scores by cluster for each dimension on the HDS, as well as the standard deviation in parentheses. Also included in the table is the homogeneity coefficient for each cluster. This number is the same as the average squared Euclidean distance among the members of a given cluster, which measures the amount of dissimilarity within each cluster. Thus, a smaller value indicates less variation on HDS scores for those individuals within that particular cluster.

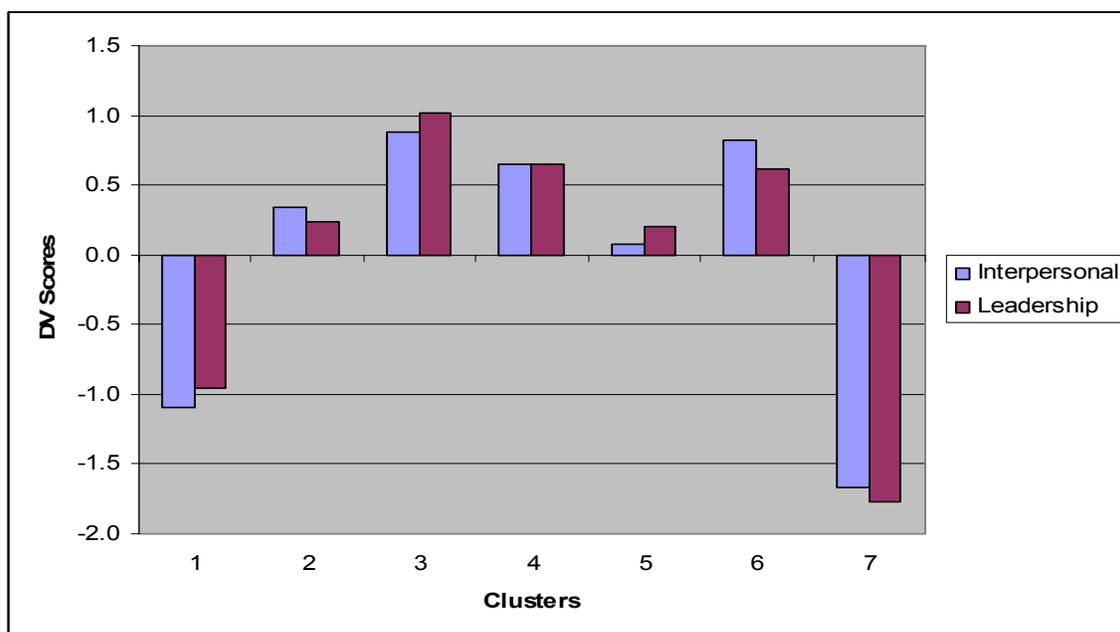
Table 6  
*Mean and (SD) scores on HDS by cluster*

| HDS Dimensions                 | Cluster 1<br>N=44 | Cluster 2<br>N=43 | Cluster 3<br>N=40 | Cluster 4<br>N=39 | Cluster 5<br>N=38 | Cluster 6<br>N=35 | Cluster 7<br>N=29 |
|--------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| <b>homogeneity coefficient</b> | <b>1.13</b>       | <b>1.22</b>       | <b>1.17</b>       | <b>1.27</b>       | <b>1.38</b>       | <b>1.26</b>       | <b>1.17</b>       |
| Excitable                      | 67.84<br>(15.45)  | 26.47<br>(12.97)  | 34.95<br>(16.70)  | 35.74<br>(20.02)  | 62.63<br>(23.15)  | 53.09<br>(22.53)  | 82.62<br>(10.58)  |
| Skeptical                      | 71.34<br>(18.14)  | 55.98<br>(18.49)  | 29.98<br>(15.77)  | 32.74<br>(19.02)  | 55.47<br>(19.07)  | 67.00<br>(19.79)  | 78.79<br>(14.39)  |
| Cautious                       | 45.18<br>(21.89)  | 39.28<br>(21.61)  | 21.38<br>(13.44)  | 44.67<br>(19.98)  | 62.58<br>(21.29)  | 42.09<br>(20.44)  | 73.34<br>(15.41)  |
| Reserved                       | 43.45<br>(24.27)  | 29.95<br>(22.40)  | 35.40<br>(19.21)  | 42.74<br>(22.78)  | 56.05<br>(22.96)  | 61.34<br>(22.70)  | 81.31<br>(14.03)  |
| Leisurely                      | 38.07<br>(21.29)  | 62.02<br>(22.01)  | 24.80<br>(20.59)  | 29.41<br>(22.11)  | 34.26<br>(20.44)  | 24.69<br>(17.53)  | 69.69<br>(19.60)  |
| Bold                           | 84.68<br>(14.95)  | 81.81<br>(16.29)  | 48.85<br>(22.39)  | 28.77<br>(18.60)  | 50.74<br>(21.41)  | 68.03<br>(19.10)  | 80.66<br>(17.16)  |
| Mischievous                    | 76.27<br>(16.96)  | 68.05<br>(19.74)  | 46.95<br>(24.34)  | 34.49<br>(19.75)  | 43.61<br>(23.28)  | 68.63<br>(17.35)  | 70.24<br>(19.38)  |
| Colorful                       | 79.86<br>(14.12)  | 72.63<br>(15.66)  | 63.20<br>(16.21)  | 24.62<br>(14.34)  | 39.53<br>(21.54)  | 60.37<br>(19.15)  | 53.83<br>(23.91)  |
| Imaginative                    | 81.77<br>(15.30)  | 60.79<br>(22.80)  | 53.38<br>(21.19)  | 27.72<br>(17.23)  | 56.71<br>(19.39)  | 52.49<br>(20.23)  | 67.76<br>(23.77)  |
| Diligent                       | 73.41<br>(20.19)  | 64.00<br>(21.15)  | 64.05<br>(19.85)  | 60.64<br>(24.56)  | 82.63<br>(13.43)  | 32.40<br>(24.40)  | 70.97<br>(24.95)  |
| Dutiful                        | 63.77<br>(25.46)  | 47.40<br>(23.79)  | 45.25<br>(23.78)  | 51.00<br>(23.82)  | 55.47<br>(25.66)  | 23.14<br>(19.34)  | 45.28<br>(25.36)  |

*Multivariate Analysis of Variance and Post Hoc Tests*

The second phase of the analysis involved conducting a multivariate analysis of variance (MANOVA) on the new cluster solution to test for differences in leadership performance due to personality profile. Using Wilks' lambda as a test statistic, the performance variables were found to be affected significantly by cluster membership,  $F(12, 520) = 2.58, p = .0025$ . Post hoc tests were also conducted to analyze each dependent variable separately. The first dependent variable was the average score taken across all 11 scores on the measure of interpersonal factors. Keeping in mind that low scores on the

criterion variables indicate low performance scores, Cluster 7 scored significantly lower than Cluster 6 and Cluster 3,  $F(6, 261) = 3.36, p = .0033$ . There were no other significant differences between clusters for this variable. The second dependent variable was the average score taken across all four scores on the measure of leadership performance factors. Here, Cluster 7 scored significantly lower than Clusters 6, 4, 3, and 2, while Cluster 1 scored significantly lower than Cluster 3,  $F(6, 261) = 4.53, p = .0002$ . There were no other significant differences between clusters for this variable. The standardized mean performance scores for both dependent variables can be found in Figure 2. In addition, the correlation coefficient for the two dependent variables was 0.93, ( $p < .0001$ ).



*Figure 2.* Mean performance scores by cluster.

For the purposes of comparing the cluster profiles, a line graph containing HDS scores for all seven clusters was included (see Figure 3). In taking a closer look at the different profiles, it becomes apparent that all HDS variables are not equally significant in terms of their role in defining that profile. For example, one clear difference is in the level of the profiles. Since higher HDS scores are proposed to be associated with a more negative personality profile, it would seem reasonable to propose that although profiles may have similar shapes, those with higher HDS scores should have lower performance scores. In looking at Figure 3, it seems that Cluster 7 scores higher than all other profiles on the first five dimensions (Excitable, Skeptical, Cautious, Reserved, and Leisurely). This observation is consistent with our findings that Cluster 7 showed the lowest performance compared to all other clusters. However, does this indicate that the remaining variables have a minimal effect on performance scores? In keeping with the idea that low to average HDS scores are desirable, then Cluster 4 should have received the highest performance scores because it had the lowest HDS scores. However, this was not found to be true in the current study. This result suggests that the level of the pattern is not the most important factor in predicting leadership failure; rather, other characteristics (e.g. shape) of the pattern seemed to more strongly affect the outcome variables. An additional observation concerns the Diligent and Dutiful dimensions. All clusters, with the exception of Cluster 6, had very similar scores on both those dimensions. Specifically, they all had elevated scores on these traits. Since I did find differentiated performance scores among clusters, this may indicate that the Diligent and Dutiful dimensions are not good indicators of patterns associated with leadership effectiveness. Finally, Cluster 4 and Cluster 5 show very similar shaped patterns, but at

different levels. However, there were no significant differences in performance between these two profiles. This finding may indicate that any pattern that falls completely within the low to average score range will be less predictive of leadership performance. Although the level of the pattern may not be the most important factor, in some cases, the extremity of the scores may show a relationship between the highest scores and poorest performers. In addition, it seems apparent that not all variables are weighted equally. Specifically, the first five traits seem to have the strongest link to poor performance.

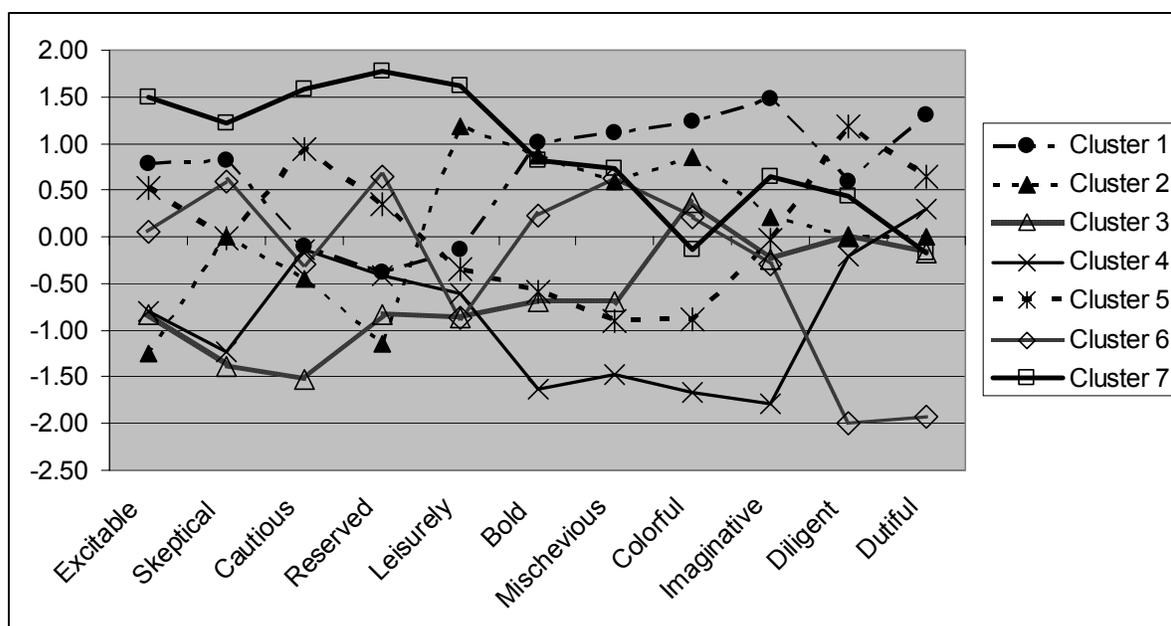


Figure 3. Mean HDS scores by cluster. Scores shown on standardized metric.

### *Profile Interpretations*

Multivariate patterns on the 11 HDS dimensions were found to be classifiable into seven clusters, or personality profiles. Since Cluster 7 showed the lowest performance ratings, we will take a closer look at this profile first.

*Cluster 7.* Referring to Figure 4.1, the typical person in this profile had elevated scores across all HDS scales. Emphasizing the highest scores, this describes a person who is unpredictable, critical, and overreacting to pressure (Excitable), prefers to be alone (Reserved), not afraid of failure, self-confident (Bold), suspicious of authority, sensitive to criticism (Skeptical), resistant to change (Cautious), detail-oriented, well-organized (Diligent), decisive and willing to take risks (Mischievous). This profile is most similar to Hogan and Hogan's (2001) profile of "blowing up" when under pressure, but not strong enough to map directly onto the proposed profile. The main similarity was that the first components of the HDS show the highest scores. However, an important difference is that the theoretical "blowing up" profile shows low to average scores in all the other scales (with the exception of Imaginative), whereas Cluster 7 profile shows elevated scores for the remaining traits as well.

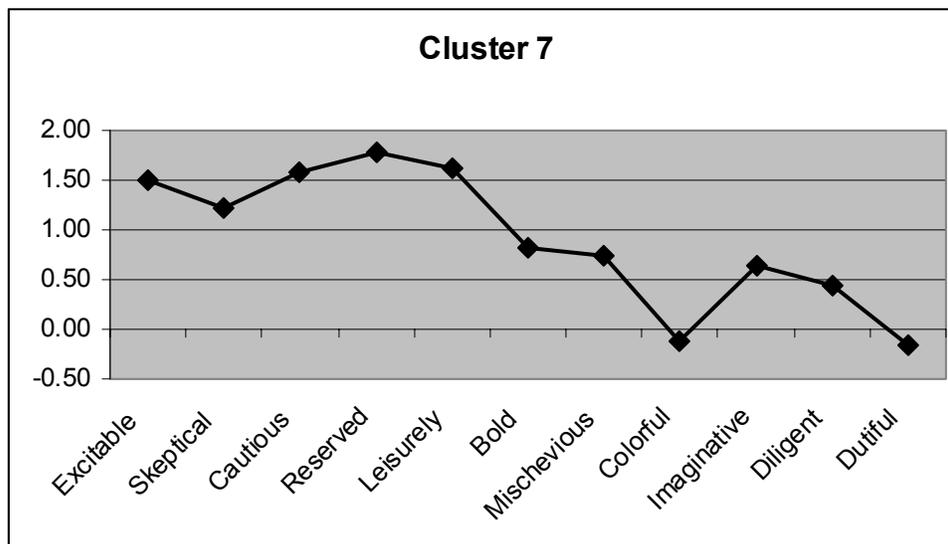


Figure 4.1. Standardized scores on the HDS for Cluster 7, similar to Hogan and Hogan's (2001) hypothetical "Blow Up" profile. Homogeneity coefficient = 1.17 (N = 29).

*Cluster 2.* Referring to Figure 4.2, the typical person with this profile had elevated scores on all of the Component 2 variables for the HDS. In this way, it was most similar, but lower in level, to the "show off" profile proposed by Hogan and Hogan (2001). Although these profiles were similar in shape, a strong match for the "show off" profile did not emerge in the current study. The Cluster 2 variable scores were elevated, but were not as extreme as proposed by the "show off" profile. The Cluster 2 profile typified a person who is very self-confident, assertive, leaderlike (Bold), active, but not necessarily productive, distractible (Colorful), decisive, adventurous, sometimes impulsive (Mischievous), detail-oriented, well-organized (Diligent), procrastinator, difficult to coach (Leisurely), a problem-solver, and thinks outside of the box (Imaginative).

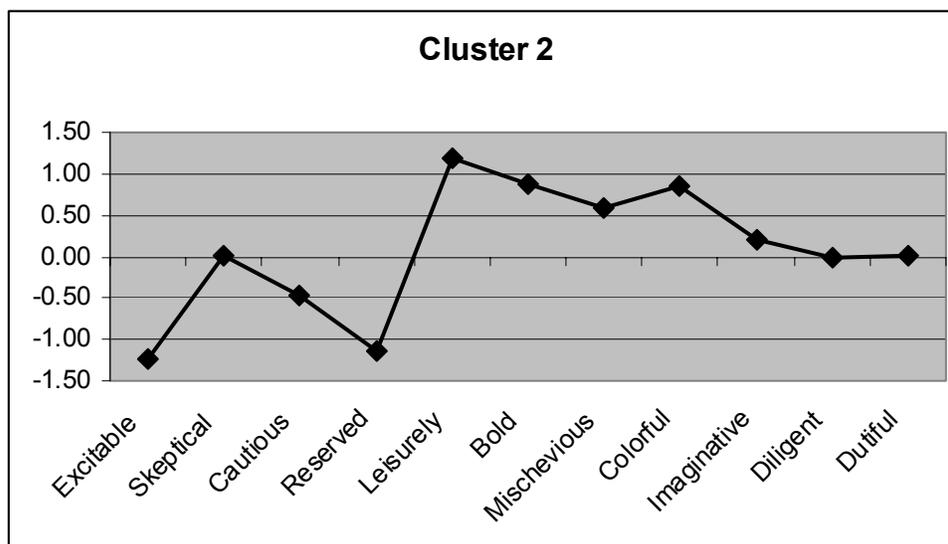


Figure 4.2. Standardized scores on the HDS for Cluster 2, similar to Hogan and Hogan's (2001) hypothetical "Show Off" profile. Homogeneity coefficient = 1.22 (N = 43).

*Cluster 4.* Referring to Figure 4.3, this profile is most similar to the "conform" profile proposed by Hogan and Hogan (2001). They both had higher scores on the Diligent and Dutiful variables, compared to the other variables, with the exception that the Diligent and Dutiful scores are less pronounced on the Cluster 4 profile. However, the primary difference is that the remaining variables had much lower scores than would be expected in the "conform" profile. The Cluster 4 profile describes a person who scored highest in the Component 3 variables of the HDS, indicating that this person is detail-oriented, polite, rational, well-organized, careful (Diligent), but reluctant to disagree with superiors, avoids risk, and is conforming (Dutiful).

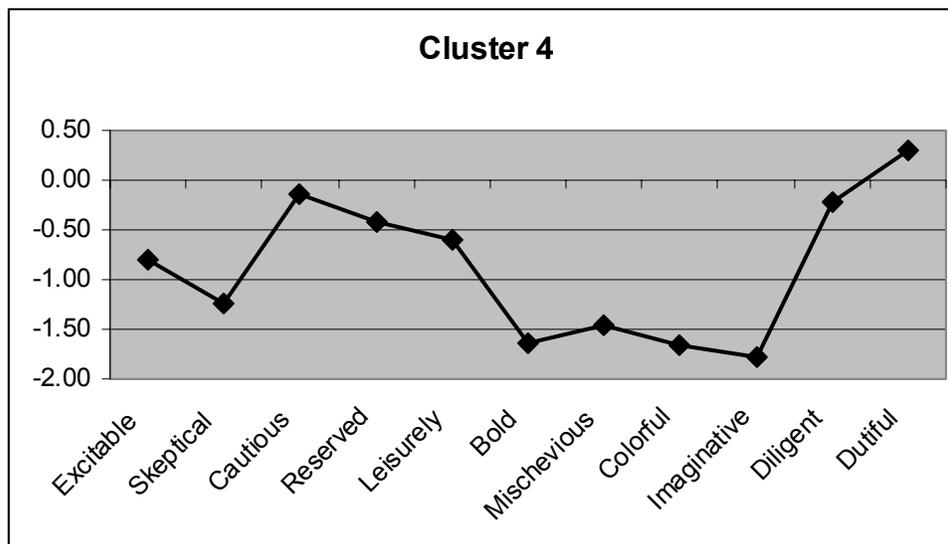
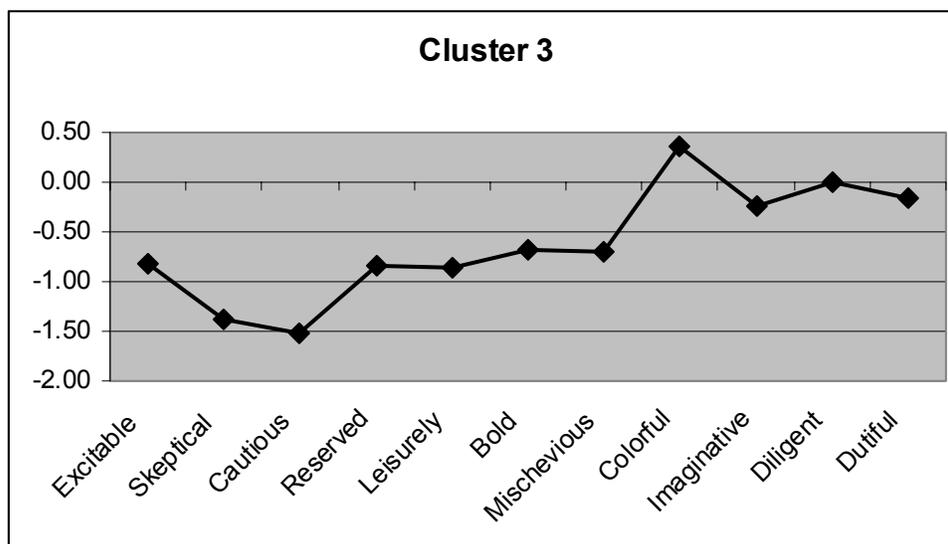


Figure 4.3. Standardized scores on the HDS for Cluster 4, similar to Hogan and Hogan's (2001) hypothetical "Conform" profile. Homogeneity coefficient = 1.27 (N = 39).

*Cluster 3.* Referring to Figure 4.4, this profile is worth a closer look because the subjects in this cluster received the highest performance ratings on the criterion measure. The "ideal" manager, as described by the Cluster 3 profile, is one who controls emotion appropriately, behaves predictably, doesn't sweat the small stuff, is not easily disappointed, and is usually in a good mood (Excitable), cooperative, accepts criticism, trusting of others (Skeptical), willing to take risks, open to change (Cautious), socially insightful, able to work in teams, approachable (Reserved), responsive to feedback, straightforward, outspoken (Leisurely), unafraid of failure, adventurous (Bold & Mischievous), active, but distractible (Colorful), unconventional, creative (Imaginative), detail-oriented, rational, well-organized, careful (Diligent), and reluctant to disagree with superiors (Dutiful).



*Figure 4.4.* Standardized scores on the HDS for Cluster 3 – the “ideal” leader with highest performance scores. Homogeneity coefficient = 1.17 (N = 40).

*Cluster 1.* Referring to Figure 4.5, a typical person in this group had elevated scores across all HDS dimensions, with the exception of Leisurely, Cautious, and Reserved. Members of this group would be expected to be responsive to feedback, straightforward and outspoken (Leisurely), which may help offset the sensitivity to criticism (Skeptical). In addition, this person is approachable, works well in teams (Reserved & Dutiful), which may help balance the competitiveness and aggressiveness towards the team (Bold). Finally, this person is adventurous, willing to take risks, and open to change (Cautious), which may help balance being rational and careful (Diligent).

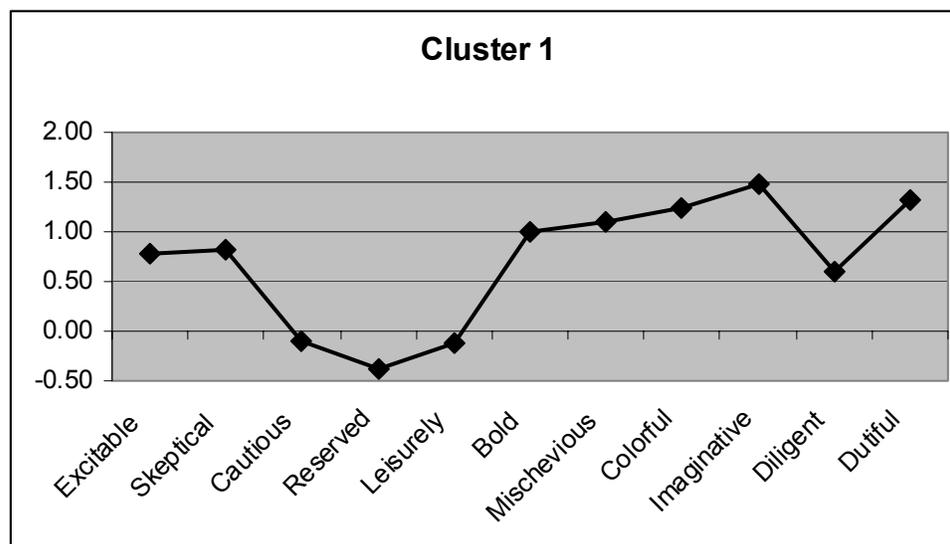


Figure 4.5. Standardized scores on the HDS for Cluster 1. Homogeneity coefficient = 1.13 (N = 44).

*Cluster 5.* Referring to Figure 4.6, this profile typifies a person with elevated scores across all HDS dimension, with the exception of Leisurely and Colorful. In addition, one variable (Diligent) was more elevated compared to the other variables. This indicates that this person is not only well-organized and detail-oriented, but possibly to the extent that he/she becomes critical and inflexible, putting extra pressure on themselves and coworkers. The lower scores in Leisurely and Colorful indicate that this person is modest and unpretentious (Colorful), responsive to feedback, outspoken, and positive (Leisurely).

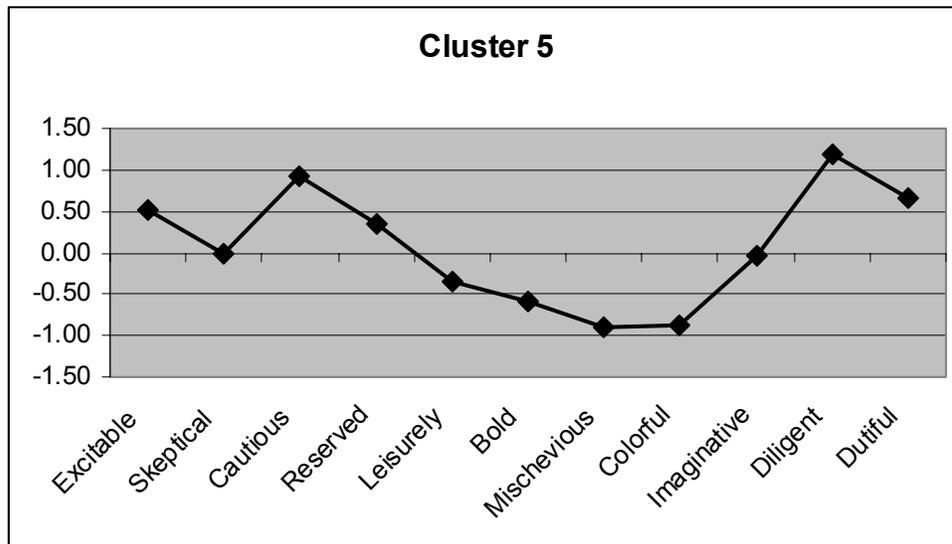


Figure 4.6. Standardized scores on the HDS for Cluster 5. Homogeneity coefficient = 1.38 (N = 38).

*Cluster 6.* Referring to Figure 4.7, this profile describes a person with elevated scores across most of the HDS dimensions, with the exception of Leisurely, Diligent, and Dutiful. The lower scores in these three dimensions indicate that this person is responsive to feedback, outspoken, and positive (Leisurely), not particularly detail oriented, relaxed, informal, willing to delegate (Diligent), independent, not bothered by negative criticism, and willing to challenge his/her superiors in support of his/her team (Dutiful).

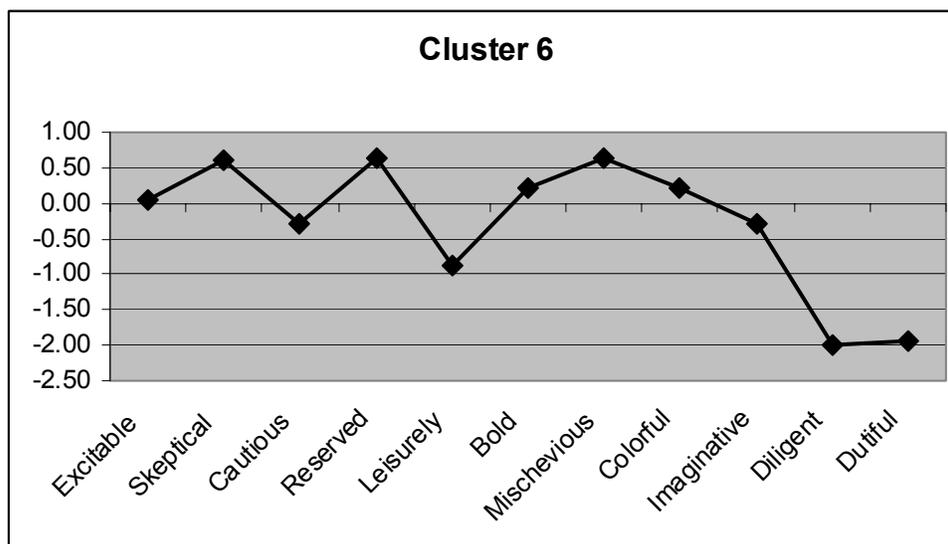


Figure 4.7. Standardized scores on the HDS for Cluster 6. Homogeneity coefficient = 1.26 (N = 35).

## Discussion

### *Research Questions and Answers*

One focus of the current study was to determine if the personality profiles of leaders could be grouped into a small number of clusters. Cluster analysis found that the sample profiles could be grouped into a 7-cluster solution. Secondly, this study aimed to confirm or deny the existence of previously proposed manager profiles (Hogan & Hogan, 2001). We did find similarities between some clusters (7, 2, and 4) and Hogan and Hogan's proposed profiles of "blowing up," "showing off," and "conforming" when under pressure. However, no cluster emerged that exactly mirrored any of the three hypothetical profiles. One issue to consider is the nature of the sample studied here; it may simply be that none of the three

dysfunctional types is frequent in the population of successful U.S. executives. Future research should explore this question by examining more diverse samples.

The second question asked if these clusters differed significantly on leadership performance. Significant differences were found among several clusters on both measures of performance (interpersonal qualities and task-oriented performance). Overall, Cluster 7 showed the lowest performance on both criterion measures. However, it should be noted that this study used an aggregated (across raters) score for the performance variable. Combining scores in this manner reduces idiosyncratic rater variance in the criteria, but also resulted in a reduction of total variance. Looking at each rater group's score separately might provide more information. Future studies should consider using such an approach.

#### *Variable-oriented vs. Pattern-oriented Methodologies*

On the basis of the correlations between the HDS scales and the performance criterion scales, I would have predicted that those profiles with the highest scores in the Excitable and Mischievous scales would have been the lowest performers. This prediction is based on the significantly negative correlations found between the Excitable and Mischievous scales and each of the performance measure scales. In fact, Cluster 7 (the lowest performer) did have the highest scores, compared to other cluster profiles, in the Excitable and Mischievous scales. Although Cluster 3 (the best performers) had lower scores for these two dimensions, there were other profiles that showed even lower scores for these two particular HDS scales, but they did not perform better. This may indicate that although higher HDS scores (Excitable and Mischievous) may predict a lower performance score, it

does not necessarily mean that lower scores may predict success. In contrast, other HDS scales (Dutiful, Diligent, Colorful, Bold, and Reserved) did not share any significant correlations with any of the performance measure scales. This may indicate that these particular scales may have little or no impact in determining leadership effectiveness or failure. In fact, a comparison of the profiles of the best (Cluster 3) and worst (Cluster 7) performers will show that both have elevated scores on these dimensions, while Cluster 7 has only slightly higher scores. This supports the notion that these particular scales may not hold much weight in determining if these individuals will be successful in leadership roles. In addition, the close approximations between the clusters found in this study and previously proposed profiles suggests that it may not be necessary to have an exact match on all 11 HDS traits to define that manager profile. Further study should examine the relationship between the 11 HDS traits, as well as how important each trait is relative to the configuration.

Another issue worth mention is the criterion validity of the HDS. Although the specific research questions of the current study did not call for zero-order correlations between the HDS and criterion measure, this typical variable-oriented approach suggested little or no criterion validity. Although some coefficients were significant, they were still very low when considered in terms of effect size. This would normally indicate that the HDS may not be a very strong measure for predicting leadership performance. However, a pattern-oriented approach still identified some profiles that were significantly different in performance. Specifically, the significant MANOVA results support the criterion validity of the HDS when interpreted in terms of patterns.

In summary, this study has underscored the complementary relationship between variable-oriented and pattern-oriented methodologies. Specifically, a variable-oriented approach may be useful for generating hypotheses about outcomes of proposed patterns, but a pattern-oriented approach can actually determine whether those patterns really exist, as well as assess the criterion-related validity of the measurement tools involved.

### *Considerations for Future Study*

A research question for further consideration is that of relationship length. The question remains as to whether performance problems due to these characteristics emerge only after extended time as Hogan and Hogan (2001) suggest. Those authors proposed that many of these negative traits covary with strong social skills. The negative traits may not be seen in initial interviews, or even after being on the job for a few months. It may take extended exposure before these traits begin to cause performance problems. Thus, it may be quite difficult to identify “bad” leaders prior to giving them leadership roles.

Another opportunity for future study involves collecting additional HDS data, assuming that the criterion-related validity of the HDS has been improved, on a sample of derailed managers to see what personality profiles exist among this different group of leaders. For example, if these data are combined with other data on successful managers, will the pattern of scores cluster in the same way for this group? Alternatively, if the data for derailed managers are reviewed independently, will there be several clusters of profiles within this subset of managers? I propose that some managers will derail due to their lack of meeting performance goals, while others will derail due to the negative traits that interfere

with holding positive relationships in the workplace. In addition, some managers will fail due to a combination of both factors. After all, if we are able to identify a profile for derailed managers, it might be a helpful tool for organizations when trying to select individuals for leadership roles. Further, if applicants are selected based on a multivariate profile, it should be more difficult for the candidate to guess the correct pattern of responses.

A final topic for future study would be profiling a more diverse sample of leaders. First, the sample used in the current study was mostly Caucasian males, but is a reflection of the real world at that level of management. As Eagly and Karau (2002) phrased it, “although women have gained increased access to supervisory and middle management positions, they remain quite rare as elite leaders and top executives” (p. 573). This homogeneity could have been a possible artifact in the 7-cluster solution found. Taking a closer look at the profiles of women leaders and the profiles of leaders with other ethnic backgrounds, as well as the interaction between gender and ethnicity might produce different results. Second, age can be a factor, as well as the total length of time spent in leadership-type roles. Third, management level needs to be considered. Although this study profiled a sample of top-level managers, level alone does not require that these candidates are the best performers. Fourth, depending on the type of industry the candidates are associated with, different profiles could emerge. These are just a few of the factors that could possibly affect the cluster solution and should be addressed in future studies.

*Executive Coaching and Development*

Finally, I would like to discuss “training” as an option for corporations to manage and develop their leaders more effectively. I typed quotes around this term only because of the skepticism present in the field about whether training personality is even possible. However, the objective of training is not to change personality. Rather, I propose that through coaching techniques, an individual might be able to learn ways to manage problem behaviors. For example, a Cluster 7 leader may need a training program that will show how to control emotions, how to trust others, how to take risks when appropriate, how to deal with healthy criticism, and how to work with others through a more cooperative relationship. Although there is still uncertainty as to whether executive coaching is an effective tool to improve performance, the empirical literature provides some evidence that it is effective in improving performance and facilitating developmental change (Kampa-Kokesch & Anderson, 2001). Future research may involve the development of coaching programs, but should also test for the validity and return on investment for such programs.

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APPENDICES

## Appendix A

*Overlapping Themes from HDS and DSM-IV, Axis 2 personality disorders*

| <b>DSM-IV Personality Disorder</b> |   | <b>HDS Themes</b> |  |
|------------------------------------|---|-------------------|--|
| Borderline                         | Inappropriate anger; unstable, intense relationships alternating between idealization and devaluation | Excitable         | Moody, hard to please, intense but short-lived enthusiasm for people, projects or things |
| Paranoid                           | Distrustful, suspicious of others, motives are interpreted as malevolent                              | Skeptical         | Cynical, distrustful, doubting others' true intentions                                   |
| Avoidant                           | Social inhibition, feelings of inadequacy, sensitive to criticism or rejection                        | Cautious          | Reluctant to take risks for fear of rejection or negative evaluation                     |
| Schizoid                           | Emotional coldness, detachment from social relationships, indifferences to praise or criticism        | Reserved          | Aloof, detached, uncommunicative, lacking interest or awareness in others' feelings      |
| Passive-Aggressive                 | Passive resistance to adequate social or occupational performance                                     | Leisurely         | Independent, ignoring requests and becoming irritated or argumentative if they persist   |
| Narcissistic                       | Arrogant, haughty behavior, grandiosity, feelings of entitlement                                      | Bold              | Unusually self-confident, feelings of grandiosity, entitlement                           |
| Antisocial                         | Disregard for truth, impulsivity, does not conform with social norms                                  | Mischievous       | Risk taking, manipulative, cunning, deceitful, exploitive                                |

## APPENDIX A (continued)

| <b>DSM-IV Personality Disorder</b> |   | <b>HDS Themes</b> |  |
|------------------------------------|---|-------------------|--|
| Histrionic                         | Excessive emotion, attention seeking, self dramatization,   | Colorful          | Expressive, animated, dramatic, needing attention  |
| Schizotypal                        | Odd beliefs, behavior, or speech; eccentric, peculiar   | Imaginative       | Acting, thinking in creative, unusual ways   |
| Obsessive-compulsive               | Preoccupations with orderliness, rules, perfection, control; inflexible   | Diligent          | Meticulous, precise, perfectionistic, inflexible, critical of others   |
| Dependant                          | Difficulty making decisions without advice and reassurance; difficulty expressing disagreement in fear of disapproval | Dutiful           | Eager to please, reliant on others for support, reluctant to take independent action or go against popular opinion |

## Appendix B

*Criterion Performance Dimensions and Definitions*

|                                  | <b>Dimension</b> | <b>Definition</b>  |
|----------------------------------|------------------|--|
| <b>Interpersonal<br/>Factors</b> | Resilient        | Manages stress easily and in a mature manner.                            |
|                                  | Trusting         | Listens to others and avoids questioning their motives.                  |
|                                  | Adaptable        | Displays willingness to change or take calculated risks.                 |
|                                  | Communicative    | Communicates openly with staff and monitors staff morale.                |
|                                  | Cooperative      | Completes tasks in a timely manner and avoids procrastinating.           |
|                                  | Fair-Minded      | Shows respect to coworkers and shares credit for accomplishments.        |
|                                  | Dependable       | Follows through on commitments and operates with a sense of integrity.   |
|                                  | Modest           | Acts with humility, remains focused on team, rather than personal goals. |
|                                  | Judgment         | Makes good decisions based on the best available information.            |
|                                  | Empowering       | Delegates projects to others and ensures priorities are established.     |
|                                  | Independent      | Begins and finishes work in the absence of direct supervision.           |
| <b>Leadership<br/>Factors</b>    | Business         | Ability to think strategically and generate well conceived solutions.    |
|                                  | Results          | Ability to take initiative and achieve results.                          |
|                                  | People           | Ability to work well with others and build a high-performing team.       |
|                                  | Self             | Ability to act with maturity, be accountable, and cope well with stress. |