

Neuroticism and the Leadership Competencies of
Transactional and Transformational Leadership

Laura McMillian

A Dissertation Submitted to the Faculty of
The Chicago School of Professional Psychology
In Partial Fulfillment of the Requirements
For the Degree of Doctor of Philosophy

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2013

Approved By:

Darcy B. Tannehill, Ed.D.

Darcy B. Tannehill, EdD, Chairperson
Vice President, Online and Off-Campus Programs

Anthony R. Petrov, DM

Anthony R. Petrov, DM, Member
Associate Professor, Organizational Leadership

George W. Hay, PhD

George W. Hay, PhD, Member
Associate Professor, Business Psychology

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Abstract

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Numerous studies have demonstrated the undesirable impacts of neuroticism on leadership performance in relevant task and social domains. The goal of this dissertation is to elucidate the relationships between neuroticism (and its components) and several specific leadership competencies that had not yet been investigated to date. This study is quantitative and correlational in design. The knowledge contributed has potential value for top executives, employers, trainers, executive coaches, mental health professionals, and researchers. The participants were 112 female top executives (CEOs, presidents, directors, and other C-level executives). These women completed two self-report instruments administered over the Internet: the EPQ-RS and the MLQ30, measuring Big Five personality traits and transformational and transactional leadership competencies, respectively. Three of four null hypotheses were rejected; neuroticism was negatively correlated with 27 of 30 competencies, and there were multiple significant relationships with three neuroticism components. Recommendations for future research and practical application are offered.

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Chapter 1: Nature of the Study

Problem Statement

When organizational leaders are neurotic, problems related to tasks, decision-making, and social interaction may result, negatively impacting organizational outcomes (Goleman, 1997; Hiller & Hambrick, 2005; Judge, Piccolo, & Kosalka, 2009; Shaubroeck, Walumbwa, Ganster, & Kepes, 2007; Tee & Ashkanasy, 2007). Neuroticism is a component of the five-factor theory of personality and indicates the tendency toward emotional instability or negative emotionality (Digman, 1990). Many influences contribute to the occurrence of neuroticism, such as genetic heritability, family influence, culture, and gender orientation (Digman, 1990). One study revealed a reduction in leaders' performance in the form of task effectiveness when they self-rated as neurotic, which is related to susceptibility to negative follower mood (Tee & Ashkanasy, 2007). Other studies found relationships between leader neuroticism and difficulties in the following areas: making strategic decisions, pursuing large-scale initiatives, maintaining their efforts toward these initiatives, handling difficult situations, and inspiring followers to perform well (Hiller & Hambrick, 2005; Judge et al., 2009). Current research shows that the five-factor theory has little generalizability in its ability to predict behavior in a wide range of situations (Popkins, 1998).

This study is intended to increase understanding of the specific areas of organizational leadership functioning which may be impacted by neuroticism and its components, including certain key thinking styles, behaviors, and orientations that prior researchers identified as integral to leadership performance. By contributing to the extant bodies of knowledge on the relationship between neuroticism and leadership performance, the study's findings can be used as introductory knowledge on the subject so that future studies may be designed to pinpoint the more precise contexts in which neuroticism in leaders poses a problem for corporations and other organizations. Knowledge relating neuroticism to leadership performance would inform leaders, those in hiring positions, trainers, coaches, and mental health professionals in their efforts to optimize leadership performance.

General Overview of the Literature

Reviewing the literature resulted in the discovery of some valuable and relevant, yet partial, information on the problem of neuroticism in leadership. The subject of neuroticism has a broader scholarly history than that of leadership performance, and there exists little information on the relationship between the two. Neuroticism is a construct belonging to the five-factor theory of personality, which was formulated by numerous researchers as a product of factor analysis to determine the basic underlying personality characteristics. The five factors include: extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. First formally proposed by Tupes and Christal in 1961 (McCrae & John, 1992), the theory fell out of favor in the 1970s, after Eysenck

proposed his simpler three-factor model (consisting of psychoticism, extraversion, and neuroticism). Upon data reanalysis by numerous researchers in the 1980s, the five-factor theory once again gained prominence (McCrae & John, 1992).

Neuroticism. This study focuses solely on the neuroticism factor, which is common to both theories and is generally defined in both as negative emotionality or emotional negativity (Digman, 1990). Neuroticism specifically consists of such emotional tendencies as anxiety, low self-esteem, tension, obsessiveness, submission, dependence, worry, insomnia, psychosomatic disorders, guilt, depression, irrationality, shyness, moodiness, anger, hostility, impulsiveness, and emotional vulnerability (Costa & McCrae, 1980; Eysenck & Jürgen, 1975). The current study uses methods pertaining to both theories to measure neuroticism. Numerous validated testing instruments for the Big Five exist; in addition, Eysenck created a personality questionnaire measuring the following factors: extraversion, emotional instability (neuroticism), tough-mindedness, sense of humor, sexuality, and social and political attitudes (Eysenck & Jürgen, 1975). Eysenck's components of neuroticism, tested for as discrete subscales, include: self-esteem, happiness, anxiety, obsessiveness, autonomy, hypochondriasis, and guilt (Eysenck & Jürgen, 1975).

The two types of explanations for the relationship between neuroticism and behavior with the most research support are temperamental and cognitive in nature (Matthews, Deary, & Whiteman, 2009). Those explanations which received less support attribute the relationship to neurotic individuals' selection of negative situations, greater

reaction to punishments, and poor emotion regulation (Matthews et al., 2009). To clarify, existing moodiness that may be attributable to biological makeup and negative thinking patterns accounts for the relationship between neuroticism and behavior most strongly. Women tend to be more neurotic than men at all ages, in addition to being more agreeable (Chapman, Duberstein, Sorensen, & Lyness, 2007), and there are differences in the neural correlates of neuroticism between the genders (Sutin, Beason-Held, Dotson, Resnick, & Costa, 2010).

Research by Goleman (1997) showed that neuroticism is associated with low emotional intelligence, which entails poor emotional regulation abilities and inadequate interpersonal skills. Neurotic individuals were found in another study to commonly engage in two dysfunctional coping techniques: avoidance of the issue of concern and obsessive focusing on the issue without directly dealing with it, accompanied by physical tics (Shoji, Harrigan, Woll, & Miller, 2010). Developing the reappraisal coping technique (altering the meaning of event interpretations) is beneficial to prevent neuroticism from having a negative impact on mood (Wang, Shi, & Li, 2009).

Trait theory of leadership. Choice of coping technique is not the only influence on the relationship between emotions and behaviors; this is true for leaders as well as the general population. According to the Trait Theory of Leadership, innate personality traits determine the emergence and effectiveness of leaders (Judge et al., 2009). The theory was, in part, revived by the use of Big-Five personality testing instruments which produced valid and reliable data (Judge et al., 2009). The theory was also supported by

the creation of the Leader Trait Emergence Effectiveness (LTEE) heuristic model, which integrated genetics and natural selection processes into trait theory (Judge et al., 2009). In one subsequent study, 20% of leader behavior was found to be related to individual characteristics, as opposed to context (Park, Arvey, & Tong, 2011).

Although some research suggests that trait anxiety (a component of neuroticism) predicts leader emergence (Popper & Amit, 2009), there is evidence that Big Five traits alone cannot predict leader emergence. Strang and Kuhnert (2009) found that leader developmental level can partially predict both emergence and leader performance (via 360-degree assessment). Developmental level refers to emotional maturity which develops based on the way individuals structure their experiences of themselves through their connections with others (Strang & Kuhnert, 2009). However, this finding does not contradict the hypothesis that Big Five traits affect leader performance or effectiveness.

Transactional and transformational leadership. Transactional and transformational leadership are widely known theories of effective leadership. According to Burns (1978), transactional leadership is a utilitarian approach to managing subordinates, involving the use of such basic behavioral principles as rewards and punishments as control tactics to benefit the organization. In contrast, transformational leadership is used to inspire followers with greater meanings and values so that all parties benefit and so that followers can grow personally and/or professionally (Burns, 1978). The charismatic communication of an appealing vision by a leader leads followers to work toward higher achievements. The leadership effectiveness criteria associated with

each of these approaches are useful as variables in testing instruments, since research supports their real-world use by revealing positive effects on employee citizenship behavior, commitment, performance, satisfaction, motivation, and engagement (Bass, Avolio, Jung, & Berson, 2003; Tims, Bakker, & Xanthopoulou, 2011).

Using the constructs of transformational and transactional leadership behavior, researchers found that the interaction of leader traits and behaviors account for nearly one third of the variance in leader effectiveness (DeRue, Nahrgang, Wellman, & Humphrey, 2011). There is insufficient research on leadership effectiveness in primarily context-driven and trait-driven situations at the current time, though there is some research on how Big Five traits generally impact it. A meta-analysis of the Big Five traits revealed certain ones to be significantly related to various aspects of leadership. Though found to be of relatively small influence, neuroticism does constitute one of many factors that significantly influence the way leaders perform their duties on a daily basis.

Neurotic leaders are known to have an undesirable impact on followers due to the contagion of their negative emotionality. Especially when followers have a small job scope (narrow range of activities), they tend to experience anxiety, low job satisfaction, and poor organizational commitment (Shaubroeck et al., 2007). Similarly, self-rated neurotic leaders are affected by followers' negative mood, leading to poor task performance and slower decision making (Tee & Ashkanasy, 2007). The social nature of leadership makes neuroticism a particularly pernicious problem for the leader-follower relationship. Indeed, neuroticism is associated with low emotional intelligence, which is defined by poor emotional identification, coping, and regulation abilities in relation to

one's self, others, and groups; interpersonal skills are negatively affected by low emotional intelligence, which presents a problem for neurotics (Goleman, 1997).

Neuroticism can also pose a problem for leaders in terms of intrapersonal functioning, since neurotic individuals have poorer problem-solving abilities; they tend to view problems as serious threats to their well-being, be pessimistic about their ability to adequately solve problems, and become distressed and frustrated when facing problems, all of which may lead to greater difficulty overcoming organizational crises and challenges (D'Zurilla, Maydeu-Olivares, & Gallardo-Pujol, 2011). Neurotic leaders with low self-efficacy, an external locus of control, and low self-esteem are unable to effectively self-evaluate (Judge et al., 2009), which in turn, may be associated with slower and more difficult strategic decision-making, fewer large-stake initiative pursuance, and less endurance in following through on initiatives (Hiller and Hambrick, 2005).

Mediating variables of the relationship between neuroticism and leader effectiveness include: states such as happiness, tension, and energy (Matthews et al., 2009); dynamism of the work environment (neurotic leaders were perceived as more charismatic in dynamic environments; De Hoogh, Den Hartog, & Koopman, 2005); leader-environment match (selection of stressful situations by neurotic individuals; Ploubidis & Frangou, 2011); available power and energy for self-regulation (DeWall, Baumeister, Mead, & Vohs, 2011); job demands; and job autonomy (Ng, Ang, & Chan, 2008). The last mediator in this list may be most useful for the purposes of the current study, since executives may have varying degrees of job autonomy. Understanding of this

comes from a study examining the mediation of leader self-efficacy, job autonomy, and job demands on the relationship between neuroticism and military leader effectiveness; results showed that all three factors are significant mediators (Ng et al., 2008). For neuroticism to be an influence, military leaders must not have a highly mentally or emotionally demanding job due to a high workload or level of difficulty, and they must have a high degree of power to decide what types of tasks they will carry out, how they will do so, and how to handle exceptions (Ng et al., 2008). However, because top executives typically have high job demands due to the nature of their positions, only high job autonomy was used as a qualifying criterion in this study.

Some research outcomes appear to contradict the theory that neuroticism negatively impacts leadership competencies. Two relevant findings include: 1) neurotic people tend to be conscientious, which is beneficial for task performance (Beckmann, Wood, & Minbashian, 2010), and 2) neurotic people engage in more feedback-seeking from coworkers (Krasman, 2010), which is beneficial for those intending to use democratic leadership styles. Whether these trends apply to top level executives is unknown at the time of this research but is discussed in the final chapter's section on recommendations for future research.

Rationale for the Study

This study intends to elucidate the emotional influences on leadership performance at a level of detail not yet established. Although information on the behaviors, leading styles, policies, systems, and skills of leaders is backed by a growing

volume of research, there is a paucity of research on the relationships between emotional tendencies and competence in various areas, including: efficacious behaviors, leading styles, policy and system establishment, and skills. Neuroticism is only one of many influences on leadership. A multifaceted phenomenon, neuroticism presents a relevant factor because negative emotions are universal and impactful on intrapersonal functioning and social relationships.

Two levels of functioning exist in human relationships: content and process (Goffman, 1970). Underlying emotions have the ability to influence the process of leader-follower relationships, and influence the nature, tone, and dynamics of these human interactions. They may also influence leaders' abilities to efficiently and effectively manage the content of their positions, including the types of tasks and activities suited to their roles. With increased understanding of the influences on leadership ability, there may be greater ease and accuracy in predicting the areas in which particular individuals are likely to excel as executives based on trait characteristics, thereby facilitating more informed application, hiring, coaching, and training decisions.

Research Hypotheses

1. There are statistically significant negative correlations between 16 or more of the 30 leadership competencies tested by the MLQ30 and Neuroticism. The null hypothesis is that there are statistically significant negative correlations between 15 or fewer of the leadership competencies and Neuroticism.

2. The leadership competencies tested by the MLQ30 which are found to have the strongest statistically significant negative correlations and predictive relationships with Neuroticism are social in nature, falling under the two categories of Communicating and Presenting, and Relating and Supporting. The null hypothesis is that the leadership competencies found to have the strongest statistically significant negative correlations and predictive relationships with Neuroticism are not social in nature, falling under categories other than Communicating and Presenting, and Relating and Supporting.
3. There are statistically significant negative correlations between the following eleven leadership competencies tested by the MLQ30, listed by subscale, and Unstable Mood as measured by an EPQ-RS Neuroticism scale item, and there are statistically significant negative correlations between the following eleven leadership competencies and Anxiety as measured by EPQ-RS items: Attracting and Managing Talent, Motivating People and Inspiring Them to Excel, Coaching and Developing People, Adapting and Coping with Pressure, Managing Plans and Projects, Facilitating and Improving Communication, Influencing and Persuading People, Managing Feelings and Emotions, Relating and Networking, Listening and Showing Understanding, and Identifying and Resolving Conflict. The null hypothesis is that there are no statistically significant negative correlations between these eleven leadership competencies and Unstable Mood or between the eleven competencies and Anxiety.

4. There are statistically significant negative correlations between the following seven leadership competencies tested by the MLQ30, listed by subscale, and Low Self-Esteem as measured by EPQ-RS Neuroticism scale items: Developing Strategy and Acting Strategically, Executing Strategies and Plans, Showing Courage and Strength, Displaying Initiative and Drive, Managing Plans and Projects, Speaking with Confidence and Presenting to Groups, and Self-Deception. The null hypothesis is that there are no statistically significant negative correlations between these seven leadership competencies and Low Self-Esteem.

Methodology

This study has a quantitative, correlational design. Top executives (CEOs, presidents, directors, and other C-level executives) gathered from The National Association of Professional Women's online directory of members were asked via e-mail to complete two self-report questionnaires over the Internet during a single phase so that the responses from each instrument could be compared and analyzed. Although self-report bias is a common concern due the possibility of reduced data validity, some studies suggest that self-report data is more revelatory of job conditions than previously believed (Crampton & Wagner, 1994; Spector, 1992). The short form Eysenck Personality Questionnaire - Revised (EPQ-RS) and the Management and Leadership Questionnaire (MLQ30) were used in the current study, as they measure eight aspects composing the Big Five factor of neuroticism and thirty aspects composing six major transactional and

transformational leadership competencies, respectively. The creators of these instruments provide operational definitions of all the variables to be measured (Appendix A contains those from the MLQ30). The EPQ-RS contains a lying scale, and the MLQ30 contains a self-deception scale, both of which proved useful in determining the veracity of responses.

To determine whether the participant data disconfirms the hypotheses, the data was analyzed by conducting Pearson correlation analyses to identify the nature and degree of the relationships examined, as well as a multiple regression analysis using the simultaneous method to identify the strongest predictive model. To ensure that Neuroticism could significantly influence participants' leadership functioning, a qualifying criterion was provided on the recruitment e-mails: they must have had high job autonomy, or else their participation would not be useful (Ng et al., 2008). For additional insight into how population characteristics might relate to any of the tested variables and the relationships between them, demographic information, job title, industry, and a single item self-assessment rating of leadership performance were also gathered. Participation was anonymous as no identity information was recorded, and all responses were password-protected and kept confidential. Participants were required to electronically agree to the terms of a waiver of consent form before participating so that any psychological or reputation risks would be known.

Anticipated Results

The results were expected to fall in accordance with the research hypotheses: 1) the scores of most of the leadership competencies decrease as Neuroticism increases; 2) most of those competencies found to have the strongest relationships with Neuroticism in the first analysis, as well as having the strongest ability to predict neuroticism, are social in nature, thus belonging to the overarching leadership competency categories of Communicating and Presenting, and Relating and Supporting; 3) several of those eleven competencies related to task and socially-based leadership performance and emotion management decrease as Unstable Mood and Anxiety increase; and 4) several of those seven leadership competencies related to strategy, planning, courage, initiative, honesty, and speaking confidently increase as Low Self-Esteem decreases. No predictions were made regarding demographic data, job title, industry, and self-assessment ratings, though this data was gathered for comparison purposes and interest's sake.

Implications

According to Hackman (2010), good leaders possess emotional maturity, which he describes as the ability to approach anxiety-inducing situations with the intention of learning from them rather than avoiding them, to handle one's own and others' anxieties effectively, to act courageously, and to avoid taking impulsive actions based on negative emotional states. Hence, neurotic individuals may or may not be emotionally mature, depending on how they handle their neuroticism, though they struggle more to reach emotional maturity, by this definition. Hackman adds that there are no adequate training

or development programs for increasing leaders' emotional maturity (up to 2002) because developing this characteristic is a lifelong process. Therefore, his recommendation is to select already emotionally mature leaders by relying on "direct evidence of behavioral competencies [rather] than on either standard personality measures or off-the-shelf tests of verbal and analytic ability" (Hackman, 2010, p. 225). Such behavioral competencies may be difficult to measure, but this is likely a worthwhile endeavor, since neuroticism is a known influence on leader performance. Those in hiring positions may use the knowledge gained from the current study to determine how relevant neuroticism is to the particular position being filled, based on the types and proportions of competencies required of the leader; if relevant, executives may decide to evaluate the candidate's emotional maturity by looking for the behavioral competencies named at the beginning of this paragraph.

Existing or prospective leaders may wish to accelerate their personal development by attending workshops and/or working with therapists and coaches to increase their emotional coping skills and self-awareness, thus reducing the negative effects of neuroticism on their performance. Reducing these effects may make achieving overall emotional maturity easier and quicker. As a result of the current study, leaders may gain the ability to recognize which of their leadership competencies are most impacted by negative emotionality and to decide whether working on their personal development is of high priority and worth the investment based on their specific job demands. In the future, scholars, leadership trainers, coaches, and mental health professionals may develop

leadership-focused guides and programs for improving emotional functioning on the job, using real-life experiences as catalysts for positive change.

Should these practices be adopted and make a positive difference in overall leader performance, organization members can expect to have a small but significant advantage in leader effectiveness, which is associated with such positive follower outcomes as: improved organizational citizenship behaviors, commitment, performance, satisfaction, optimism, motivation, learning, engagement, and collaboration (Bass et al., 2003; Tims et al., 2011). These improvements in employee performance factors may, in turn, positively impact other dimensions of organizational effectiveness, such as efficiency, innovation, turnover, stability, profit margin, and growth. If the current study's results pertaining to the highest level executives in the organizational hierarchy are later found to also apply to individuals in other leadership positions, taking these insights into account could directly benefit the organization from the top-down, middle-down, and more, since leaders operate at various levels (such as the C-level, middle management, team leadership, and supervisory positions). Subordinates, too, can act as leaders in a sense, by offering positive examples in their dealings with coworkers and superiors.

Definition of Key Terms

This section provides basic definitions of the key terms used frequently in this dissertation. Some definitions are conceptual, as the concepts compose the theoretical frameworks used to inform this study's design. Others are operational, as they correspond to the ways the variables were measured.

The five-factor model of personality (Big Five). The five-factor model of personality (also known as the Big Five) is a conceptual model which holds that the human personality fundamentally consists of varying degrees of extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience (Judge et al., 2009).

Neuroticism. For the purposes of this study, the conceptual definition of *neuroticism* will rely on the term originally used by Hans Eysenck: emotional instability (Eysenck & Jurgen, 1975). Eysenck and Eysenck (1994) further describe highly neurotic individuals as pessimistic, negative, and anxious (i.e.: possessing negative emotionality as an inborn personality trait). Instruments based on Eysenck's work measure participants' proneness to anxiety, happiness, guilt, self-esteem, depression, obsessiveness, hypochondria, and independence within common contexts (Eysenck & Jurgen, 1975). The components measured in this study using the EPQ-RS included: depression, low self-esteem, guilt, anxiety, worry, embarrassment, short temper, tension, loneliness, and unstable mood (EdITS, 2001).

Low self-esteem, unstable mood, and anxiety. Of these components, *low self-esteem, unstable mood, and anxiety* were used as additional variables in this study. As measured by the relevant EPQ-RS items, Low Self-Esteem is the tendency toward having one's feelings easily hurt when criticized, excessive guilt, and lasting embarrassment;

Unstable Mood is defined as mood fluctuation between low and high emotional states (for example, sadness and happiness); and Anxiety is the tendency to worry frequently, be preoccupied with possible disasters, and be generally tense and anxious (EdITS, 2001).

Competencies. *Competencies* are abilities or skills that qualify an individual for a task. A leadership competency is defined for the purposes of this study as a behavior, leading style, policy and system management ability, and other leadership skills associated with effective leadership. This study's leadership variables consist of 30 competencies that are associated with transactional and transformational leadership, measured as operationally defined in the chosen instrument by the MLQ30 (Beazer & Cameron, 2011). Definitions of each competency, taken from the MLQ30 manual, are provided in Appendix A.

Transformational leadership. *Transformational leadership* is a leadership style that involves inspiring followers with a vision and developing them as future leaders (Burns, 1978).

Transactional leadership. *Transactional leadership* is a leadership style that involves management and control through the use of rewards and punishments (Burns, 1978).

Outline of Remaining Chapters

Chapter 2 contains a comprehensive literature review which provides an overview of the extant background knowledge on the relevant concepts, theoretical frameworks, models, and research outcomes that inform the current study, including contradictory evidence. Chapter 3 contains a detailed description of the methodology, including sections on the problem statement, research hypotheses and rationales, research design, participants, materials, procedures, data processing, assumptions and limitations in the method, and ethical assurances. Chapter 4 describes the study's findings in terms of descriptive and inferential statistics, accompanied by an analysis of the design. Finally, Chapter 5 presents a summary, conclusions based on previous research findings and practical implications, and recommendations for future research and practice.

Chapter 2: Literature Review

The Five-Factor Model of Personality and Neuroticism

The Five-Factor Model as a Valuable Tool for Understanding Personality

The five-factor model is a conceptual model which holds that the human personality fundamentally consists of varying degrees of extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience, dimensions also known as “The Big Five” (McCrae & John, 1992). Trait theories of leadership have heavily employed this model to study the emergence and effectiveness of leaders (Judge et al., 2009). A large amount of empirical evidence attests to this model’s validity, based on the use of colloquial language synonyms within self-report instruments and observations, as well as its reliability, based on studies concerning multiple times, places, and types of people (McCrae & John, 1992). Although there are ongoing discussions as to interpretations of the five factors and the distinguishing traits making up each dimension, they nonetheless constitute a useful framework that researchers can rely upon as a source of personality dimension constructs while personality trait theories and taxonomies continue being refined (McCrae & John, 1992). Five-Factor theorists say that the five factors are present in most, if not all, personality instruments (McCrae & John, 1992);

about 50% of the common variance in the majority of personality inventories is related to the five-factor model (Matthews et al., 2009).

The five-factor model gradually evolved starting in the 1930s, with the identification of natural language terms (the lexical approach). These were later tested with questionnaires, factored, and amended into the current terms in the 1960s, before personality psychology fell out of favor in the 1970s, due to controversy over “implicit personality theory” (McCrae & John, 1992, p. 184). The model was revived in the 1980s upon reanalysis of old data sets by Digman and Takemoto-Chock, and by Goldman (McCrae & John, 1992). Costa and McCrae provided a large amount of empirical evidence integrating the five factors with other personality models, and one major Big Five measurement scale is based upon their work [the NEO-PI-R] (Matthews et al., 2009).

In 1970, psychologist Hans Eysenck saw overlaps among some of the five factors, and came up with a three-factor model consisting of psychotism, extroversion, and neuroticism (having added psychotism to his earlier two-factor model based on Cattell’s Sixteen Personality Factor Scale); however, not all scholars subscribe to this reduction (Popkins, 1998). The five-factor model remains most prominent in personality research despite a major limitation: it has little generalizability in terms of predicting behavior in a wide range of situations (Popkins, 1998). Mediating factors and more specific traits likely need to be identified in order to identify reliable trait-behavior relationships.

Cross-cultural translations of the five factors have shown consistent analysis results, except for the fifth factor (openness to experience), which is interpreted

differently among various populations (some interpretations include “culture,” “intellect,” and “openness to others;” Digman, 1990); these results suggest some international commonality in personality conceptualization despite differences in language and culture. There is reason to assume based on this research that neuroticism is therefore a universal emotional experience across all times and places.

While the five factors may be used in efforts to remedy personality disorders and dysfunctions, they are more commonly used for academic understanding (Popkins, 1998). This academic understanding allows researchers to study and predict behaviors and performance. According to official diagnostic guidelines specified by The American Psychological Association, the presence or absence of these factors in a person, to any degree, does not denote a clinical disorder. Therefore, Big Five instrument results do not confirm or deny pathology, but are merely descriptive. That said, there are numerous extant Five Factor assessments: the NEO Personality Inventory, the Five Factor Personality Inventory, the Big Five Questionnaire, the Hierarchical Personality Inventory for Children, the Structured Interview for the Five Factor Model of Personality, the nonverbal assessments NPQ and FF-NPQ, the Global Personality Inventory, the Traits Personality Questionnaire, the Big Five Inventory, and numerous others that measure the five factors and related factors of personality (John, Donahue, & Kentle, 1991; Matthews et al., 2009).

Where Does Personality Come From?

There are numerous influences that shape personality development:

- The Minnesota Twin Studies and preceding research agree that about 50% of personality can be attributed to genetics (Digman, 1990).
- The influence of family life and child-rearing is surprisingly small, based on correlational studies comparing responses from questionnaires examining parenting practices and parent-child interaction and personality measures such as the NEO-PI inventory (Digman, 1990).
- Age has an insignificant impact on personality, meaning it remains stable over time, based on longitudinal studies by Costa and McCrae (Digman, 1990).
- Gender has a small to moderate effect on personality traits, with women of differing ages and nationalities scoring lower on assertiveness than males and higher on trust, anxiety, tender-mindedness, negative affect, nurturance, and submissiveness (Matthews et al., 2009).
- Culture is predictably influential in personality formation, since one's culture determines the importance of each trait based on traditions and values; for example, Western culture values achievement, thus contributing to high conscientiousness (Matthews et al., 2009).

There may be additional important traits in non-Western cultures not covered by the five-factor model or traits described by other Western models that lack emphasis in Western culture. The five-factor model is a product of its time and place, so traits and environment may need to be considered together during attempts at personality explanation. Researchers have studied the interaction between genes and environment in determining personality traits; a study on ninety-nine pairs of Swedish identical twins administered scales measuring family environment and personality traits found that such an interaction accounts for seven percent of personality trait score variance (Matthews et al., 2009). This percentage is small; however, the percentage for each individual trait varies. A discussion of the interaction between neuroticism and environment follows in the next section.

Neuroticism Plays a Role in Behavior Due to Biology, Environment, and Cognition

This study focuses on one of the five factors in particular: the neuroticism factor. Neuroticism is generally defined as the tendency toward negative emotionality or emotional instability (Digman, 1990). Eysenck and Jurgen (1975) described the neuroticism factor as the spectrum between *emotional instability* and *adjustment*, with the former consisting of: anxiety, low self-esteem, tension, obsessiveness, submission, dependence, worry, insomnia, psychosomatic disorders, guilt, depression, irrationality, shyness, and moodiness. Costa and McCrae (1980) define the neuroticism factor as consisting of: anxiety, anger, hostility, impulsiveness, depression, and emotional vulnerability. According to Goleman (1997), neuroticism is associated with low emotional intelligence, indicating that a person has poor emotional identification, coping, and regulation abilities in relation to one's self, others, and groups; not only is individual functioning negatively affected, but also interpersonal skills. Table 1 contains a visual representation of the various neuroticism components by scholar.

Table 1: Neuroticism Components by Scholar

General definition: negative emotionality or emotional instability (Digman, 1990)		
Eysenck & Jurgen (1975)	Costa and McCrae (1980)	Goleman (1997)
Anxiety	Anxiety	Low emotional intelligence, consisting of:
Low self-esteem	Anger	Poor emotional identification,
Tension	Hostility	Poor coping ability,
Obsessiveness	Impulsiveness	Poor emotional regulation
Submission	Depression	when dealing with one's self, others, and groups,
Dependence	Emotional vulnerability	Weak interpersonal skills
Worry		
Insomnia		

Researchers found in the previously mentioned study on genetic-environment interaction's impact on the formation of personality that those with high-neuroticism genotypes had lower neuroticism scores in active environments, and those with low-neuroticism genotypes had higher neuroticism scores in active environments, suggesting that environment is highly influential in the manifestation of neurotic traits (Matthews et al., 2009). A related argument is that the circumstances under which leaders function make a difference in relation to the incidence and effect of neuroticism. The broader context requires consideration prior to making attributions, because neuroticism may appear to be a boon in some circumstances and a detriment in others; also, neuroticism may have an effect, whether positive or negative, in some circumstances but none at all in others. For example, neurotic leaders are perceived as charismatic in dynamic work environments, which will be further discussed subsequently (De Hoogh et al., 2005).

According to Matthews, Deary, and Whiteman (2009), the aggregate of research suggests that states such as happiness, tension, and energy are significant mediators in the relationships between Big Five personality traits and behavior. They name five proposed explanations for the correlations between neuroticism and states: temperamental (affect is fundamental), instrumental (personality influences the nature of involvement in situations, which impacts mood), emotional-reactivity (emotional reactions to punishment are stronger in high N individuals), cognitive (neurotic traits lead to dismal thinking patterns, which affect mood), and mood-regulation (high N individuals are poor at resolving bad moods and maintaining good moods). The authors note that, of these explanations, neuroticism has most reliably been associated with the temperamental and

cognitive explanations in studies; neurotic people are already moody and/or they regularly think in negative patterns (Matthews et al., 2009). Perhaps personal experiences and deeply ingrained habits are responsible when genetics are not.

The temperamental explanation is in alignment with Costa and McCrae's and Eysenck's psychobiological view that personality is biological in nature, though it provides an incomplete explanation (Zuckerman, 2011). Eysenck's theory holds that neuroticism is related to easy activation of the fight-or-flight response via the sympathetic nervous system, measurable by heart rate, blood pressure, sweating, cold hands, and muscular tension; less neurotic people are only flappable in the most extremely stressful situations, as they can bring their affective states back into control more easily and remain calm during routine stressors (Eysenck & Jurgen, 1975). Neurotic people may be considered to have a more sensitive nervous system, so a larger amount of effort is necessary to regain balance. This theory provides an interpretation of the temperamental explanation of the relationship between neuroticism and state of mind, though further research is needed to fully elucidate the causes. The types of causes have implications for whether and how neuroticism might be ameliorated by organizational leaders and all other individuals (medical remedies, psychiatric and psychological treatments, behavioral coaching, personal development efforts, and so forth). However, this information will only be valued by leaders once they understand the relationships between their neurotic tendencies and various areas of their leadership performance, which is the underlying rationale for this research study.

Neuroticism and Gender Differences

Because the current study's sample consisted entirely of women, an examination of gender differences in terms of neuroticism is relevant. Multiple studies have found significant differences in neuroticism between men and women; Costa, Terracciano and McCrae (2001) found that adult women from 26 countries ($N = 23,000$) scored moderately higher in two Big Five personality traits than men based on self-report measures: neuroticism ($SD = .51$) and agreeableness ($SD = .59$). These results were replicated in observer reports of 50 cultures by McCrae and Terraciano (2005) and were also reflected in findings from a short trait-adjective measure of the lexical five factors administered to a sample representative of the U.S. population by Goodwin and Gotlib (2004). Following these studies, Chapman, Duberstein, Sorensen, and Lyness (2007) found the same pattern in an older U.S. sample, aged 65 and over ($N = 751$, 64% female, 36% male), using the NEO-Five Factor Inventory (NEO-FFI); these results suggest that gender differences in five-factor personality traits are stable throughout the lifespan. Chapman et al. (2007) reference evolutionary and social role theories as existing explanations for women's tendencies to be more emotional and nurturing than men (to aid in childrearing).

Furthermore, men and women experience neuroticism in different parts of the brain. A study on the neural correlates of neurotic tendencies, namely depression, corroborated the biological theory of neuroticism. This study revealed that in women with stable brain activity, areas assigned to emotional regulation and processing (midbrain) were positively related to neuroticism, and that women's depression could be predicted

by neuroticism via higher activity in the right hippocampus (Sutin et al., 2010). These patterns were not found among the men in the study, whose neuroticism was associated with higher blood-flow activity in the middle temporal gyrus (Sutin et al., 2010).

Relevant Theories of Leadership

The Return of Trait Theories of Leadership

The trait theory of leadership holds that innate personality traits determine the emergence and effectiveness of leaders (Judge et al., 2009). The theory once fell out of favor due to criticisms that it was an oversimplification, a perilous philosophy, and a theory lacking methods for measurement; its return to prominence was, in part, made possible by the emergence of the five-factor model and its instruments (Judge et al., 2009). Personality traits may not determine all outcomes, but they do influence behaviors to some degree; having the appropriate measurement tools is essential to understanding these relationships. Judge, Piccolo, and Kosalka (2009) brought trait theory back into favor by going beyond the existing validating empirical studies and connecting it to socioanalytic theory, evolutionary psychology, and behavioral genetics, since biology is now known to play a large role in determining personality. These researchers designed their comprehensive Leader Trait Emergence Effectiveness (LTEE) heuristic model to include and differentiate all known factors related to the trait theory of leadership, such as genetics and natural selection processes, which converge to form traits, mediators between traits and leader emergence, and subjective versus objective leader effectiveness (Judge et al., 2009).

How much overall do individual characteristics make a difference? Park, Arvey, and Tong (2011) found through their observations of 572 females using a bootstrapping method that 80% of leader behavior can be accounted for by context, since 20% was found to be related to individual characteristics. Results such as these demonstrate why the Fundamental Attribution Error, a cognitive psychology term for the common human tendency to overestimate the role of fundamental personality traits in determining behavior while discounting that of context, is unhelpful in attributions of leadership competency (Ross, 1977). Naturally, particular contexts encourage or require particular behaviors, and traits also influence behavioral manifestations. Therefore, identifying leadership situations in which the context is most influential as opposed to personality would be interesting, as well as determining interactions between the two. The next question is how do these factors combine for the creation of a predictive model?

Derue, Nahrgang, Wellman, and Humphrey (2011) noted a divide between trait and behavior theories of leadership and set out to integrate the two. These researchers came up with a trait-behavioral theory integrating personality, gender, and age with transformational and transactional leadership behavior to predict effectiveness in the areas of leader effectiveness, group effectiveness, and follower job satisfaction. Working together, leader traits and behaviors account for at least 31% of the variance in leader effectiveness (DeRue et al., 2011). Therefore, nearly one third of the time or more, leadership effectiveness is determined by an interaction between traits and behaviors, and the other two thirds may be accounted for by one or the other individually (most of which

will be context, as discovered earlier). Again, the specific context-driven and trait-driven situations remain unspecified.

Transactional and Transformational Leadership

Two concepts that aid in defining leadership effectiveness are transactional and transformational leadership; each has their own criteria for successful leadership based on their respective ideals, values, and processes (Bass, 1985; Burns, 1978). Transactional leadership is defined as a utilitarian approach that employs basic behavioral principles to manage employees solely for organizational benefit. A simple transaction between leader and follower occurs in which the follower exchanges his or her work for something possessed by the leader (typically, money and/or recognition). There is no interest in raising the follower to a higher level of inspiration or advancement, and rewards and punishments are used as motivators by the leader in power to manipulate follower behaviors. The system is assumed to function best through the use of this authoritarian hierarchy. Effective transactional leaders consistently apply a system of rewards and punishments to produce reliable worker behavior and adequate quality work products or services. According to Bass, Avolio, Jung, and Berson (2003), numerous studies support both the contingent reward and recognition types of transactional leadership; the former is positively correlated with follower organizational citizenship behaviors, commitment, performance, and satisfaction, and the latter is associated with only organizational citizenship behavior, though to a greater degree than the former, which involves explicit contracts.

In contrast, Burns' (1978) notion of transformational leadership is defined as leading through appeals to higher morality and values so that collaborative work can occur; this arrangement is assumed to be the best way for both organizations and individuals to achieve shared goals, as opposed to individual efforts. Transformational leadership is characterized by inspiration through vision and voluntary action of followers, rather than management and control, as with transactional leadership. Charisma rather than coercion is the overarching leadership style. Transformational leadership takes advantage of people's need for a sense of meaning and higher purpose, and transactional leadership relies on people's basic survival needs. Matthews et al. (2009) describe transformational leadership as, "The ability of a Churchill or Gandhi to rise to a challenge by communicating a vision that motivates their followers to excel" (p.414-5).

There are numerous facets of transformational leadership Tims, Bakker, and Xanthopoulou (2011) find that, in the literature, "Transformational leadership is traditionally divided into four components, namely (1) inspirational motivation; (2) idealized influence; (3) individual consideration; and (4) intellectual stimulation" (p. 123). Their study of supervisors' effect on 42 employees through the use of questionnaires and a week-long diary showed that transformational leadership improves followers' engagement in daily work processes, which was fully mediated by optimism (the expectation that good things will happen; Tims et al., 2011).

These criteria are a few of many ways to measure leader effectiveness, and using multiple criteria helps toward gaining a full understanding of how well a leader is

motivating followers to work toward a common cause (DeRue et al., 2011). There is little research linking the Big Five Traits and these two conceptual models of leadership, though other related measures of leadership performance have been used to study these relationships. Validating leadership effectiveness instruments has historically been difficult due to the relative inaccessibility of objective measures, entailing ratings by others observing or experiencing the individual's leadership (Matthews et al., 2009). Researchers who do have the resources to employ objective measures have the ability to identify relevant factors and, in some cases, relate them to items in self-report measures. These validated self-report measures can then be used as reliable indicators of whether a leader is leading well.

Big Five Traits, Neuroticism, and Leadership Performance

The Big Five and Job Performance

Big Five traits influence general job performance, as shown by Barrick and Mount's (1991) meta-analysis; they found that conscientiousness predicted performance in the areas of job proficiency, personnel data, and training proficiency for all occupational types examined (sales, managers, police, professionals, and skilled/semi-skilled), whereas extraversion was predictive in the socially-based occupations (sales and management). Leadership at the executive level is a social occupation as well, though only management is examined here; indeed, some consider management a form of leadership in practice (Mintzberg, 2009).

The Big Five, Neuroticism, and Leadership Performance Are Related

A large volume of data relates the Big Five directly to leadership. A meta-analysis of 222 correlations from 74 samples showed that the five-factor model had a significant correlation with leadership of .48, with extraversion having the strongest correlation and the most consistency across study settings and criteria of all the Big Five traits [.31] (Judge et al., 2002). This result is consistent with Barrick and Mount's (1991) finding that extraversion predicts performance in socially-based jobs. (On the other hand, military leadership among United States undergraduates was found in a dissertation study by O'Neil (2007) to be at its best primarily when a high level of conscientiousness is present.) The Big Five traits were significantly related to various aspects of leadership in 90% of individual correlations (Judge et al., 2002). The correlation found between neuroticism and leadership was -.24, meaning that neuroticism is responsible for variations in leader behavior approximately six percent of the time (Judge et al., 2002). The finding that the Big Five framework is a useful predictor of leadership supports the use of a Big Five trait as a personality construct in this study.

Efforts have been made to differentiate the contexts leaders face when determining relationships between leadership performance and the Big Five. A large-scale study on East Asian military leadership by Ployhart, Lim, and Chan (2001) revealed relationships between Big Five traits and both maximal and typical performance, referring to high intensity situations such as assessment and average intensity situations such as basic training, respectively. Again, extraversion predicted performance in both conditions, but openness was most predictive of good maximal performance and

neuroticism was most predictive of poor typical performance (Ployhart, Lim, & Chan, 2001). This result suggests that negative emotionality may be most impactful on leaders in routine, everyday life situations. A clue to why this is so may be found in recent trait theory literature.

In their aforementioned work reviving trait theory, Judge et al. (2009) discuss the positive and negative aspects of Big Five personality traits as relevant to leadership, including the dimension of interest in this study: neuroticism. A low level of neuroticism is one feature of the trait called “core self-evaluations,” along with general self-efficacy, locus of control, and self-esteem; “core self-evaluations” are defined as “one's bottom-line self-assessment” (Judge et al., 2009, p. 866). Hiller and Hambrick (2005) suggest that a high level of this trait enables CEOs to make swifter and easier strategic decisions, show greater endurance in pursuing large stake initiatives, and pursue a larger number of these initiatives, thereby supporting this study’s hypothesis that neuroticism stands in the way of organizational leader effectiveness in multiple areas. Here, there is specific support in the areas of strategic decision-making and large-scale goal setting and accomplishment.

A study by Tee and Ashkanasy (2007) revealed that leaders’ task effectiveness and decision-making speed are lower when leaders rated themselves as neurotic, the cause being susceptibility to negative follower mood. In this study, a group of confederate followers deliberately displayed a negative, neutral, or positive mood toward the 48 participating leaders and rated leader mood and performance based on observation. Tee and Ashkanasy (2007) concluded that leaders need to remain emotionally resolute in the

face of negative followers if they want to maintain a high level of performance. The same effect occurs in the opposite direction: a leader's negative mood can also be detrimental to followers' performance. In a study by Johnson (2008), followers who listened to a leader's training speech with a negative tone performed at a lower level when engaging in the described hiring process, as compared those in the neutral and positive tone conditions; the researchers identified the reason as insufficient inspiration to do the job well. The contagion of negative emotions is clearly a problem for organizations, especially those requiring emotional stability at the leadership level.

D'Zurilla, Maydeu-Olivares, and Gallardo-Pujol (2011) examined the relationships between Big Five personality traits and social problem-solving ability by correlating responses on the Eysenck Personality Questionnaire-Revised, the NEO Five-Factor Inventory, the Positive and Negative Affect Schedule, and the Social Problem-Solving Inventory-Revised. Social problem-solving is generally defined as the efforts made by individuals to come up with emotional coping techniques for particular challenging everyday situations, situations that leaders of all kinds frequently face. Five dimensions of social problem-solving were tested: "positive problem orientation (PPO), negative problem orientation (NPO), rational problem solving (RPS), impulsivity/carelessness style (ICS) and avoidance style (AS)" (D'Zurilla et al., 2011, p. 143). These researchers found that neuroticism predicted low problem-solving ability, with negative problem orientation having the strongest relationship on both personality instruments. This dimension is defined as the tendency to view problems as serious threats to one's well-being, be pessimistic about one's ability to adequately solve

problems, and become distressed and frustrated when facing problems (D'Zurilla et al., 2011). This result suggests that neurotic leaders may face greater difficulties solving organizational crises and complications than non-neurotic leaders.

Contradictory Evidence: Neurotic Leaders Are Conscientious and Feedback-Seeking

Some evidence exists which may contradict the hypothesis that neuroticism harms leadership performance in all ways and situations. A correlational study by Beckmann, Wood, and Minbashian (2010) using 115 managers at large Australian companies showed that neuroticism and conscientiousness are positively correlated at the within-person level (though negatively at the between-person level). This result means that neurotic people, including leaders (or at least managers, if they differ), are also likely to be conscientious, a major Big Five predictor of good leadership performance in some contexts (for example, the military). These results challenge Tee and Ashkanasy's (2007) findings that neuroticism interferes with leaders' task effectiveness.

Another potentially contradicting study was conducted by Krasman (2010), whose survey of 130 organization employees revealed that Big Five personality traits are correlated with feedback-seeking behavior. Neuroticism increased feedback seeking from coworkers both directly and indirectly (the only trait that did), and from supervisors indirectly only. Extraversion increased direct and indirect feedback seeking from supervisors, and conscientiousness only increased direct feedback seeking from supervisors. Agreeableness had no effect, and Openness to Experience encouraged evaluations from others. The variability in feedback-seeking behavior explained by the

Big Five was 4.3-7.6% (Krasman, 2010). The same may be true of organizational leaders seeking feedback from subordinates, colleagues, and, if applicable, superiors (thus, making them simultaneous employees and leaders). Seeking feedback is a desirable leader activity for democratic-style leaders, so perhaps having some neurotic tendencies is beneficial to at least this aspect of leadership. However, more research is needed to reach conclusions about the general organizational leader population.

Mediating Variables: Dynamism, Workplace Match, Power, Energy for Self-Regulation, Job Autonomy, Job Demands, and Job Scope

Additional leadership research reveals that certain mediating variables may influence the relationship between Big Five traits, including neuroticism, and leadership performance. One such factor is the dynamism of the work environment, which is the degree to which the environment is challenging and provides opportunities for growth; in a study by De Hoogh, Den Hartog, and Koopman (2005), leaders rated by subordinates as neurotic were seen as more charismatic in dynamic work environments, whereas they were seen as less charismatic in stable work environments. These researchers speculate that dynamic situations may make the emotional charge of neurotic leaders feel inspiring to followers. (Interestingly, extraversion had no relationships with either condition, though it is the trait associated with charisma and influence (De Hoogh et al., 2005).)

Another possible mediating variable is the match between the leader and the work environment. Using the Eysenck Personality Questionnaire and 30-item General Health Questionnaire, Ploubidis and Frangou (2011) found that people scoring high in neuroticism tend to self-select situations that are likely to create distress and difficulty

(neuroticism accounted for 10% of the variance of environmental and individual components making up psychological distress). Based on this finding regarding people in general, neurotic leaders may face difficulties in their work performance because of the types of positions they choose, rather than because neuroticism is interfering with their functioning. There may be value in finding out whether leaders are intentionally choosing adversity over ease when evaluating such relationships.

Leaders' degree of power and available energy to self-regulate can affect how hard they work, according to DeWall, Baumeister, Mead, and Vohs (2011). Here, power is defined as, "The capacity to influence and control the outcomes of other people by rewarding or punishing them" (DeWall et al., 2011, p. 1). These researchers found that when leaders have power, they are more motivated to work effectively, unless they deem the task unworthy. However, only those who are not "ego-depleted" (drained of energy to self-regulate due to prior irrelevant efforts at self-control) will exert less effort toward unworthy tasks, and those who are depleted complete all types of tasks (DeWall et al., 2011). Therefore, distinguishing leaders with little or much power and those with high or low self-regulation energy may be warranted when evaluating the relationship between neuroticism and leader task performance. Perhaps powerful, neurotic leaders depleted of self-regulation energy are more effective at completing all types of tasks than powerful, non-neurotic leaders who are not depleted.

A study on the mediation of leader self-efficacy, job autonomy, and job demands on the relationship between neuroticism and leader effectiveness shows that all three are significant mediators (Ng et al., 2008). Under the conditions of low leader self-efficacy,

low job autonomy, and high job demands, neuroticism does not negatively impact military leadership effectiveness. In the study, “job autonomy” refers to the degree of power leaders possess in deciding what and how tasks are completed as well as how to handle exceptions. “Job demands” refers to how mentally and/or emotionally demanding the job is due to heavy workload and/or high difficulty. “Leader self-efficacy,” defined in the study by Ng et al. as the subjective capacity of individuals to perform leadership roles effectively, is closely related to job performance as it is measured and analyzed in the current study (Ng et al., 2008). The findings suggest that research should account for job demands and job autonomy conditions by primarily focusing on leaders with low job demands and high job autonomy, as they are the only ones vulnerable to the effects of neuroticism. Only then can relationships between neuroticism and leader performance be evaluated. However, the fact that only military leaders were used in the study may be a differentiating factor to consider, considering that most CEOs and presidents have high job demands.

Finally, subordinates with a low job scope whose supervisors showed neuroticism in the form of emotional negativity and hostility were found to have multiple poor outcomes, according to Shaubroeck et al. (2007). Low job scope refers to a low degree of job enrichment, that is, narrowness in the types of activities assigned. The follower outcomes on which leaders’ negative attitude has a detrimental effect include: job satisfaction, anxiety, and organizational commitment. In contrast, followers with a high job scope were less negatively affected by neurotic (negative and hostile) leaders, suggesting that enriched jobs may offset the impact of such leaders (Shaubroeck et al.,

2007). Therefore, identifying whether studied leaders' followers have high or low job scopes may be important so that the effect of their neuroticism on certain followers, groups, and organizational outcomes can be thoroughly understood. In the future, there may be value in studying neurotic leaders whose followers have a low job scope so that the effects may be more accurately identified.

Leader Emotional Development: Developmental Level and Coping Skills Affect Leadership Performance

Popper and Amit (2009) proposed a model for leader development via experiences which included low trait anxiety and high openness to experience, both originating from a secure attachment style. According to attachment theory originator John Bowlby (1988), a securely attached adult (based on childhood experiences with the parents) has: good self-esteem; lasting, trusting relationships; a habit of seeking out social support; and comfort with divulging emotions with others. (Insecure attachment styles include ambivalent, avoidant, and disorganized styles.) Popper and Amit's (2009) study of 286 participants (male soldiers in the Israel Defense Forces) using self-report questionnaires and interviews showed that leaders, indeed, displayed the two expected traits. However, they found that trait anxiety predicts a secure attachment style and openness to experience in leaders, as opposed to secure attachment style being the predictor variable (Popper & Amit, 2009). This finding means that the tendency toward regularly experiencing anxiety due to personality is a strong predictor of leader emergence.

Contrary to the assumption that personality is the best predictor of leadership, Strang and Kuhnert (2009) conducted an empirical study in which they found that leader developmental level, based on constructive-developmental theory, is a strong predictor of leader performance according to ratings by employees, superiors, and peers in the 360-degree assessment. Constructive-developmental theory holds that individual differences develop based on the way individuals structure their experiences of themselves and their interpersonal connections (Strang & Kuhnert, 2009). Strang and Kuhnert (2009) argue that leader emergence cannot merely be explained using the five-factor theory, but must also include this theory. Therefore, neuroticism may not be a useful predictor of leader emergence, but it does predict performance in certain areas of leadership.

Because of the impact of developmental level, some leaders choose to work on developing themselves as a strategy for becoming better leaders to their organizations (Reichard & Johnson, 2011). In their work, Reichard and Johnson (2011) discovered that developing one's self is a competitive strategy that aids in swift and effective problem-solving and creative idea generation, which supports organizational growth and adaptability. Prior research has shown that formal leadership training programs may be inadequate because the content may fail to focus on the organization's specific goals and objectives or may become irrelevant after training is completed (Reichard & Johnson, 2011). Similarly, leader self-development must be aligned with group and organizational objectives, but it is more economical and provides lasting benefits (Reichard & Johnson, 2011). The process entails the leader taking control of what will be learned and how, for the purposes of developing his or her leadership capacities through increasing skills,

knowledge, and abilities as relevant to the organization's and individual's needs. Reichard and Johnson (2011) identify three primary self-development behavior categories, the first being most important: "engaging in stretch assignments, self-reflection and self-awareness, and learning from others" (p. 1). The abilities to become self-aware and to self-regulate are also necessary in this process of proactive initiation and commitment.

Coping techniques are methods for emotional self-regulation which may be relevant to leader success. Shoji, Harrigan, Woll, and Miller (2010) conducted a study on the interactions among neuroticism, types of situations, and coping techniques. They asked 196 participants (undergraduates from psychology classes) to recall an anxiety-inducing situation and to imagine themselves in a similar one in the present moment. Then, participants completed self-report measures, the Eysenck Personality Inventory to test for neuroticism and a specially-created measure developed by the researchers using a Likert scale to assess general responses, cognitive appraisals, and coping techniques. Situations were coded as one of three types: interpersonal, performance, and health. Cognitive appraisals fell into five categories: uncontrollability and threatening, concerns about outcomes, avoidance of situation, negative appraisal, and others' evaluation. Coping techniques fell into three categories: mental positives, mental restraint, and ineffective confrontation. The results were that neuroticism interacted with cognitive appraisals, situations types, or both to influence choice of coping technique. The strongest effect found was that those high in neuroticism tended to engage in mental restraint coping, the dysfunctional method of avoiding thinking about or dealing with the situation, in interpersonal situations (especially if concerned about others' evaluation),

and inefficient confrontation, a dysfunctional method involving obsessively thinking about the stressor and physical tics, if high in neuroticism but unconcerned about others' evaluation (Shoji et al., 2010). Therefore, neurotic people would especially benefit from working on their coping skills for use during stressful interpersonal situations, and the type of dysfunctional coping technique to be eradicated would depend on whether they care about what others think of them. This conclusion can be applied to neurotic leaders who wish to develop themselves by improving their ability to directly problem-solve in the face of difficult social situations.

Wang, Shi and Li (2009) noted that prior research revealed ties between neuroticism and negative affect, and between extraversion and positive affect; they set out to discover mediating variables to explain these relationships. Using the Eysenck Personality Questionnaire Short Scale, the Emotion Regulation Scale, and the Positive and Negative Affect - Expanded Form general dimension scales, Wang et al. (2009) tested for relationships with two previously discovered coping techniques, reappraisal and suppression. They found that reappraisal had a significant mediating role for both relationships, but suppression did not (Wang et al., 2009). Reappraisal is changing one's thinking strategy by altering the meaning of an event, which alters the affect experienced. This result suggests that whether individuals' moods are negatively impacted by neuroticism depends on whether they engage in a certain type of cognitive coping technique. Leaders high in neuroticism would benefit from developing the reappraisal coping technique if their mood determines their performance in some or all aspects of their role.

Summary and Gaps in the Literature

The foregoing literature review reveals that neuroticism in leaders is empirically related to: (a) reduced leader task effectiveness when affected by negative follower mood (Tee & Ashkanasy, 2007); (b) reduced follower task effectiveness when affected by negative leader mood group and individual projects suffer due to poor inspiration; Johnson, 2008); (c) greater difficulty resolving organizational crises and complications (D'Zurilla et al., 2011); and (d) a poor ability to self-evaluate (among a cluster of causative factors), which in turn, is associated with slower and more difficult strategic decision-making, fewer large-stake initiative pursuance, and less endurance in following through on initiatives (Judge et al., 2009). Neuroticism is most detrimental to leaders' performance under the conditions of: routine, everyday life situations (Ployhart et al., 2001), low job demands (Ng et al., 2008), high job autonomy (Ng et al., 2008), stable work environments (followers view them as less charismatic than in dynamic environments; De Hoogh et al., 2005), and followers with low job scope (Shaubroeck et al., 2007).

Evidently, interpersonal factors play a large role in neuroticism's negative impact on leadership performance, as evidenced by numerous studies examining the contagion of moods in the workplace as it affects behavior. But patterns concerning non-social factors are poorly understood, since the extant knowledge on the effects of neurotic leaders' relationships with themselves (intra-personal factors) is fragmented and insufficient. There is value in identifying neuroticism's relationships with a wider variety of leader tasks and roles so that a clearer understanding of the way this trait undesirably impacts

leaders' performance can be achieved. In addition, many studies do not use organizational executives as their participants, instead using military or student leaders, so caution must be taken in generalizing the results to business leaders until more data is generated from this population.

Potential Significance of the Study

By cultivating a broader understanding of the areas and contexts of leadership in which neuroticism poses a problem, a more complete picture of what constitutes an effective leader may be gained. Although the use of emotional coping techniques may make the difference between whether or not negative emotionality or emotional instability has an undesirable effect on leaders' performance (Wang et al., 2009), possessing knowledge of the vulnerable areas which may especially require these techniques could be a boon in leadership development efforts, whether formal or self-directed. Such efforts may include on-the-job training, executive coaching, psychotherapy, educational processes, mentoring, self-observation, and others.

Better organizational, personal, and interpersonal outcomes may be achieved through these methods for increasing self-awareness and improving skills. Business leaders may hone their skills and remove obstacles in every aspect of their job position so that their individual employees, work groups, and the organization as a whole may experience beneficial outcomes at personal, professional, creative, and financial levels. Alternatively, those considering leadership positions who lack the capacity to provide effective leadership in the form expected of them, depending on the demands of the

organization and its culture (transactional, transformational, or other forms of leadership may be appropriate), would be able to opt out of such a career path at an early stage, rather than discovering their incompatibility with the role through a lengthy, wasteful, and unpleasant process of trial and error. Those making hiring decisions could tailor their interview questions to include assessment of the emotional compatibility of applicants with the job position, while simultaneously informing applicants of the challenges they would face due to the nature of the organization and its field.

This study serves to advance knowledge on the topic so that further research can expand on the results. For example, future research may be able to employ differing leadership performance criteria based on different or newly emerging theories, or it may identify mediating variables in the relationships between neuroticism and specific areas of leadership performance for an even more precise understanding of the mechanics. New and targeted coping techniques may then be developed for each type of situation that leaders encounter in which negative emotions may stand in the way, since the nature of the negative emotional pattern may be predictable and specific to each situation.

Chapter 3: Methodology

Chapter Overview

This chapter contains a detailed description of the proposed study's research design and methodology. It consists of a reiteration of the problem statement, research hypotheses, rationales behind the hypotheses, and research design details. Limitations and assumptions of the method and ethical assurances are also discussed. Finally, a chapter summary provides a general overview of the entire chapter.

Problem Statement

When organizational leaders are neurotic, problems that negatively impact organizational outcomes may result, including issues related to tasks, decision-making, and social interaction (Goleman, 1997; Hiller & Hambrick, 2005; Judge et al., 2009; Shaubroeck, Walumbwa, Ganster, & Kepes, 2007; Tee & Ashkanasy, 2007). Neuroticism is one component of the five-factor theory of personality, and indicates the tendency toward emotional instability or negative emotionality (Digman, 1990). Many influences contribute to the occurrence of neuroticism, such as genetic heritability, family influence, culture, and gender orientation (Digman, 1990). One study revealed a reduction in leaders' performance in the form of task effectiveness when they self-rated as neurotic, which is related to susceptibility to negative follower mood (Tee & Ashkanasy, 2007).

Other studies found relationships between leader neuroticism and poorer ability to make strategic decisions, pursue large-scale initiatives, maintain their efforts toward these initiatives, handle difficult situations, and inspire followers to perform well. Current research shows that the five-factor theory has little generalizability in its ability to predict behavior in a wide range of situations (Popkins, 1998).

This study is intended to increase understanding of the specific areas of organizational leadership functioning which may be impacted by neuroticism and its components, including certain key thinking styles, behaviors, and orientations that prior researchers identified as integral to leadership performance. By contributing to the extant bodies of knowledge on the relationship of neuroticism to leadership performance, the study's findings may be used as introductory knowledge on the subject so that future studies may be designed to pinpoint the more precise contexts in which neuroticism in leaders poses a problem for corporations and other organizations. Knowledge relating neuroticism to leadership performance would inform leaders, those in hiring positions, trainers, coaches, and mental health professionals in their efforts to optimize leadership performance.

Hypotheses and Rationales

1. There are statistically significant negative correlations between 16 or more of the 30 leadership competencies tested by the MLQ30 and Neuroticism. The null hypothesis is that there are statistically significant negative correlations between 15 or fewer of the leadership competencies and Neuroticism.

Rationale: Numerous aspects of leadership effectiveness are known to be negatively affected by high levels of neuroticism, based on Big Five and Eysenck measures, including: reduced leader task effectiveness (Tee & Ashkanasy, 2007); reduced follower task effectiveness (Johnson, 2008); difficulty resolving organizational crises and complications (D'Zurilla et al., 2011); and poor ability to self-evaluate, which is related to slower and more difficult strategic decision-making, fewer large-stake initiative pursuance, and less endurance in following through on initiatives (Judge et al., 2009).

2. The leadership competencies tested by the MLQ30 which are found to have the strongest statistically significant negative correlations and predictive relationships with Neuroticism are social in nature, falling under the two categories of Communicating and Presenting, and Relating and Supporting. The null hypothesis is that the leadership competencies found to have the strongest statistically significant negative correlations and predictive relationships with Neuroticism are not social in nature, falling under categories other than Communicating and Presenting, and Relating and Supporting.

Rationale: There is a significant amount of research identifying relationships between neuroticism and poor leadership performance which are related to the effects of contagious negative emotions. Studies such as those conducted by Tee and Ashkanasy (2007) and Johnson (2008) demonstrate reduced leader task effectiveness when leaders

are affected by negative follower mood, and reduced follower task effectiveness when followers are affected by negative leader mood, respectively.

3. There are statistically significant negative correlations between the following eleven leadership competencies tested by the MLQ30, listed by subscale, and Unstable Mood as measured by an EPQ-RS Neuroticism scale item. In addition, there are statistically significant negative correlations between the following eleven leadership competencies and Anxiety as measured by EPQ-RS items:
Attracting and Managing Talent, Motivating People and Inspiring Them to Excel, Coaching and Developing People, Adapting and Coping with Pressure, Managing Plans and Projects, Facilitating and Improving Communication, Influencing and Persuading People, Managing Feelings and Emotions, Relating and Networking, Listening and Showing Understanding, and Identifying and Resolving Conflict.
The null hypothesis is that there are no statistically significant negative correlations between these eleven leadership competencies and Unstable Mood or between the eleven competencies and Anxiety.

Rationale: Sadness and anxiety are basic types of negative moods that emotionally unstable individuals may experience as part of their mood fluctuations. Contagious negative moods were found by Tee and Ashkanasy (2007) and Johnson (2008) to be associated with poor task effectiveness on the parts of both leaders and followers in a bi-directional manner. Therefore, leaders with high unstable mood and anxiety scores are

likely to score lowly in the socially-based leader competencies, in addition to competencies related to general work tasks. They also likely have poor coping skills if they experience sadness and anxiety on an ongoing basis, since they probably deal poorly with pressures, managing emotions, and handling tense situations like conflicts (Goleman, 1997).

4. There are statistically significant negative correlations between the following seven leadership competencies tested by the MLQ30, listed by subscale, and Low Self-Esteem as measured by EPQ-RS Neuroticism scale items: Developing Strategy and Acting Strategically, Executing Strategies and Plans, Showing Courage and Strength, Displaying Initiative and Drive, Managing Plans and Projects, Speaking with Confidence and Presenting to Groups, and Self-Deception. The null hypothesis is that there are no statistically significant negative correlations between these seven leadership competencies and Low Self-Esteem.

Rationale: In the absence of adequate self-esteem, the ability to self-evaluate suffers, and this tendency interferes with the ability to make strategic decisions, pursue large projects, and endure in their pursuance (Judge et al., 2009). Leaders afflicted with low self-esteem likely perform poorly at strategy-related competencies. And, intuitively, displaying courage, strength, initiative, drive, confidence, and honesty with one's self requires esteeming one's self highly.

Research Design

Kind of Research Method

This study features a quantitative, correlational research design which is intended to investigate whether certain personality characteristics are associated with certain leadership competencies. No treatment was administered using an experimental design; rather, information on multiple variables was sought through the completion of questionnaires at one point in time so that statistical correlations could be calculated (Cook, 1979). Despite efforts toward controlling for confounding variables, establishing causality was not possible; the nature and direction of relationships could not be determined without experimental manipulation in controlled environments (Cook, 1979). This study is intended to establish correspondence among variables in order to test the general hypothesis that neuroticism and individual aspects of neuroticism are associated with poor performance in particular organizational leadership areas, based on transactional and transformational leadership concepts. Future studies may be designed to identify the directionality of any relationships found as well as any mediating variables.

Operational Definitions of All Research Variables

The variables examined included neuroticism, specific tendencies making up neuroticism, and various competencies related to leadership role of CEOs and presidents. The conceptual definition of neuroticism for the purposes this study is that originally used by Hans Eysenck: emotional instability (Eysenck & Jurgen, 1975). Eysenck and Eysenck (1994) further describe a highly neurotic person as someone with “a constant

preoccupation with things that might go wrong, and a strong emotional reaction of anxiety to these thoughts” (p. 3.) Because Eysenck theorized that neurotic people are prone to sympathetic nervous system hyper-arousal in perceived emergency situations, instruments based on his work measure participants’ proneness to anxiety, happiness, guilt, self-esteem, depression, obsessiveness, hypochondria, and independence within common contexts (Eysenck & Jürgen, 1975).

The components measured in this study, using the EPQ-RS, include Depression, Low Self-Esteem, Guilt, Anxiety, Worry, Embarrassment, Short Temper, Tension, Loneliness, and Unstable Mood (EdITS, 2001). Of these components, low self-esteem, unstable mood, and anxiety were used as variables in the current study, along with general neuroticism. Based on the EPQ-RS items that were examined, low self-esteem is the tendency toward having one’s feelings easily hurt when criticized, excessive guilt, and lasting embarrassment (EdITS, 2001); based on the relevant EPQ-RS item, unstable mood is defined as mood fluctuation between low and high emotional states (i.e.: sadness and happiness), and anxiety is the tendency to worry frequently, be preoccupied with possible disasters, and be generally tense and anxious (EdITS, 2001).

This study’s leadership variables include 30 competencies associated with effective transactional and transformational leadership, measured as operationally defined in the chosen instrument: the Leadership and Management Questionnaire [MLQ30] (Beazer & Cameron, 2011). Those 15 variables indicating Transactional Leadership Competencies, typical of a management focus, consist of (Beazer & Cameron, 2011, p. 7):

- Executing Strategies and Plans;
- Improving Processes and Systems;
- Managing Customer Relationships and Services;
- Analyzing Issues and Problems;
- Managing Plans and Projects;
- Facilitating and Improving Communication;
- Influencing and Persuading People;
- Managing Feelings and Emotions;
- Speaking with Confidence and Presenting to Groups;
- Writing and Reporting;
- Relating and Networking;
- Listening and Showing Understanding;
- Building Trust and Modeling Integrity;
- Identifying and Resolving Conflict; and
- Cultivating Teamwork and Collaboration.

Each of these transactional leadership competency variables is categorized under one of three overarching categories: Implementing and Improving (the first five variables), Communicating and Presenting (the next five variables), and Relating and Supporting (the remaining five variables; Beazer & Cameron, 2011, p. 7).

Those 15 MLQ30 variables indicating Transformational Leadership Competencies, typical of a leadership focus, include (Beazer & Cameron, 2011, p. 6):

- Thinking and Managing Globally;

- Developing Strategy and Acting Strategically;
- Managing Knowledge and Information;
- Creating and Innovating;
- Managing Costs and Financial Performance;
- Attracting and Managing Talent;
- Motivating People and Inspiring Them to Excel;
- Coaching and Developing People;
- Managing Culture and Diversity;
- Making Sound Decisions;
- Displaying Initiative and Drive;
- Showing Courage and Strength;
- Learning and Developing Continuously;
- Managing and Implementing Change; and
- Adapting and Coping With Pressure.

Each of these transformational leadership competency variables is categorized under one of three overarching categories: Strategic and Creative Thinking (the first five variables), Leading and Deciding (the next five variables), and Developing and Changing (the remaining five variables; Beazer & Cameron, 2011, p. 6). Appendix A contains detailed definitions of each variable as written by the instrument's developers.

Levels of Measurement

Three categories of variables were measured in this study: General Neuroticism, Aspects of Neuroticism, and Leadership Competencies. General Neuroticism was measured as a ratio variable, since scores from the EPQ-RS range from zero to twelve numeric, equally spaced units that gradually increase to indicate higher degrees of neuroticism, with a meaningful zero value (Costa & McCrae, 1994). Neuroticism subscales were measured as interval variables, since averaged subscale item scores ranged from 1.0 to 2.0 (EdITS, 2001). Leadership Competencies were measured as interval variables using the MLQ30, since scores ranged from one to ten (as equally spaced whole numbers) to indicate the degree of competence from low to high (one indicates the lowest level of competence; Beazer & Cameron, 2011).

Kinds of Measurements for All Variables

There may have been some reactivity based on the first instrument used in this study, which measures Neuroticism. Responses on the second instrument, which measures leadership competencies, may have been affected if participants felt positively or negatively about their self-ratings of emotionality. If they felt ashamed or upset after reflecting on their emotional functioning, they may have either rated themselves poorly on certain leadership competencies due to self-judgment or tried to overcompensate for their feelings of inadequacy by exaggerating their competencies. Those who rate highly on Neuroticism are most likely to experience these reactions, by definition, and therefore may have skewed the results; these individuals may be better at their leadership roles than

they indicated, in spite of their neuroticism. Therefore, words to preemptively assuage any potential shame were included in the instructions.

Design Validity

According to Fraenkel, Wallen, and Hyun (2006), correlational studies are vulnerable to threats to internal validity related to participant characteristics, location, data collection, testing, and instrumentation decay. In order to maximize internal validity, confounding variables were controlled for by qualifying only participants with high job autonomy and by asking them to answer questions in terms of what is typical of their emotional functioning and work experience on average (Cook, 1979; Ng et al., 2008). Additional unknown variables may have played a part in the correlations found, however, and further studies are necessary to gain a fuller understanding of any mediating variables.

Another threat to internal validity is the chance for participant bias due to the personal nature of self-reports; some participants may experience discomfort with being evaluated and judged by a researcher whom they assume to be an expert in the types of behaviors and emotional tendencies being examined, leading them to exaggerate desirable emotional tendencies and aspects of leadership performance (Cook, 1979). The validity data of the two testing instruments to be used in this study is provided by the publishers and will be summarized later in this chapter.

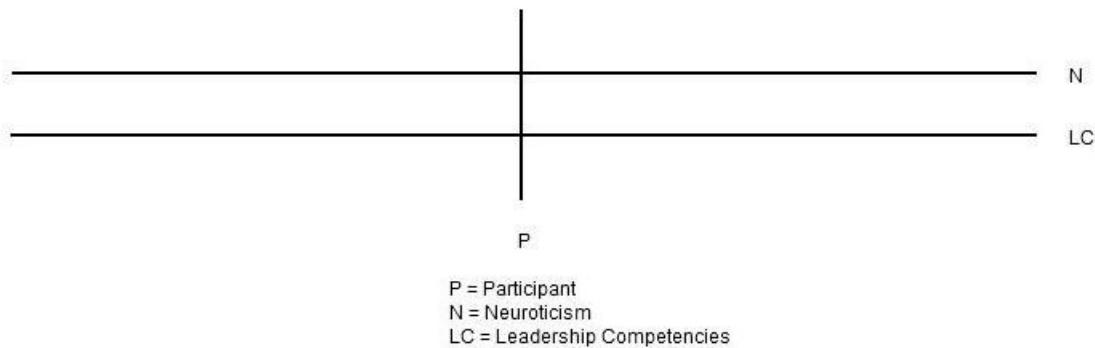
The results' external validity may be threatened because of participant selection. This process could have been flawed due to the limitations presented by the participating

executives, each of whom values research, feels positively about sharing their views and experiences, and/or has the time and willingness to complete surveys (Cook, 1979).

Therefore, ease of completion, reassurances of the confidentiality of personal information and responses, and reassurances that character judgments will not be made were provided to reduce any apprehension related to criticism and to support honesty.

Another selection concern is the degree to which the participant sample, gathered over the Internet from the National Association of Professional Women, is sufficiently representative of all high level organizational leaders in the United States or the world, either listed or unlisted on the Internet. Participants were only women who use e-mail, navigate web sites, fill out web forms, and value business networking with other women. Use of an Internet resource was preferred for convenience reasons and because Internet use is pervasive in the 21st century marketplace. In addition, rather than specifying one type of industry, organization size, organizational structure, and/or leadership position, perhaps including all types of organizations and top executives would provide more useful data if significant differences exist in the ways that neuroticism impacts leadership competencies across these categories. This study maintains a broad focus in terms of industry and executive type due to its germinal nature and can be expanded upon in later studies based on other researchers' specific interests.

Figure 1. Diagram of Design



Participants

The participants for the current study were top executives (CEOs, presidents, directors, and other C-level executives) who chose to participate after being invited via e-mail through the National Association of Professional Women (NAPW), a networking community for women seeking to promote their business careers. This website can be accessed online at <http://www.napw.com> (National Association of Professional Women [NAPW], 2012). All demographic categories and locations were included, aside from legal adult status (18 to over) and the inherent gender limitation. The sampling method used was convenience sampling, as this population was readily accessible to the researcher; also, use of this resource was expected to enhance the response rate as compared to random sampling using a public directory. In addition, the online platform enabled the researcher to efficiently communicate with potential or current participants. All participants were randomly selected from the association's private directory for members, with the exception of specific job position search criteria (top executives only)

and the exclusion of those running single-member organizations; they were contacted via the website's online messaging system in the form of a mass recruitment e-mail with the hope that at least 100 qualifying individuals would respond. Using this method, top executives of a wide variety of United States organizations had an equal chance of selection, and there was no selection bias apart from NAPW membership status and possession of basic Internet skills (Jupp, 2006).

Materials

The data was collected using two survey instruments: The short form Eysenck Personality Questionnaire-Revised (EPQ-RS), and the Management and Leadership Questionnaire (MLQ30), normative version. The EPQ-R was created for research and practical applications in numerous areas, such as clinical diagnosis, experimental research, and personnel selection (Allin et al., 2006). The EPQ is a validated and reliable measure of neuroticism (Kline, 1993); it scores over .70 in test-retest reliability, internal consistency, and long-term stability ratings of neuroticism (Costa & McCrae, 1994). The short form uses the same scales and 'yes' or 'no' question format as the long form, and consists of 57 items, in contrast to the long form's 100 items (Eysenck & Eysenck, 1994; Francis, Lewis, & Ziebertz, 2006). In this study, responses of 'no' and 'yes' were coded numerically as one and two, respectively. The short form's internal consistency reliabilities are somewhat lower, ranging from .57 to .86, which is to be expected when the number of items is reduced (Allin et al., 2006). Only data from the short form's Neuroticism and Lie scales were scored for a total of 24 items, though participants were

expected to complete the entire instrument so that its validity would be retained. Eysenck theorized that neurotic people are prone to sympathetic nervous system hyper-arousal in perceived emergency situations; therefore, EPQ questions measure aspects of neuroticism by asking about respondents' proneness to anxiety, moodiness, loneliness, guilt, embarrassment, low self-esteem, obsessiveness, worry, and anger (Eysenck & Jürgen, 1975).

The MLQ30 measures the thirty specific leadership competencies belonging to six key areas: three pertaining to managerial and transactional styles and three pertaining to leadership and transformational styles. The questionnaire features 192 items (six items per scale) rated on a Likert scale ranging from one to five, whose ratings fall on a spectrum from low to high competence ("emerging," "developing," "competent," "superior," and "elite," Beazer & Cameron, 2011, p. 5). Scores for each competency range from one to ten. There are two additional scales to aid in interpretation: Impression Management and Self-Deception (Beazer & Cameron, 2011). This instrument is useful because it provides broad coverage of the two major styles of leadership and their multiple components, and the current study aims to develop a more detailed understanding of how neuroticism relates to leadership abilities than is known to date.

The MLQ30 manual includes detailed descriptions of the scales, as well as the meanings of low, moderate, and high scores. The MLQ30 uses a standard ten system of scoring, meaning competencies scores range from one to ten (Beazer & Cameron, 2011). A low competency score, ranging from one to three, means the competency is least developed and there may be performance issues; the MLQ30 manual states that a score of

three is higher than approximately 10% of the comparison group (Beazer & Cameron, 2011). In comparison, a high score of eight to ten means the competency is highly developed and should be exploited as a strength; a score of eight is higher than approximately 90% of the comparison group (Beazer & Cameron, 2011). Ratings in between indicate a less developed or early phase skill (4), an intermediate skill (5-6), and a fairly developed yet possibly still developing skill (7; Beazer & Cameron, 2011).

The MLQ30 manual provides the following reliability information: “The reliabilities of the scales in standardization sample ranged from .82 to .91 and the median scale reliability was .87. These reliabilities are at the upper end of the category ($r = .8$ to .89) defined as good by the EFPA Review Model” (Beazer & Cameron, 2011, p. 42). The manual also provides construct validity information: the “intercorrelations” among scales on the normative version range from .31 to .91 with a median of .73, indicating a substantial degree of correlation among the scales (tables are provided in the manual; Beazer & Cameron, 2011, p. 46). The normative MLQ30’s construct validity was tested using two methods in a single study: one involved the comparison of job performance self-assessment to scale scores, with correlations ranging from .27 to .44, and a median of .36 (all scales correlated significantly at the .01 level). The other method involved the comparison of manager-assessed job performance to scale scores, with correlations ranging from .20 to .42 and a median of .35 (all scales correlated significantly at the .01 level; Beazer & Cameron, 2011, p. 46). Therefore, one can glean that this instrument moderately predicts the appraisal of leadership and management competencies by the self and managers. These results are consistent with meta-analytic results regarding the

relationship between overall work performance and personality variables, according to the creators of the instrument (Beazer & Cameron, 2011).

Procedure

The participants were contacted via mass e-mail using the NAPW online messaging system to describe the proposed study and its benefits, list the qualifying criterion (high job autonomy), introduce the researcher, and provide Internet links to the waiver of consent form and survey instruments. Participants were told that there is no obligation to participate, and advised that all involvement in the study would be kept confidential and that their identities would remain anonymous. (This script can be found in Appendix B.)

E-mail recipients who decided they were qualified and willing to participate could click on the provided Internet link to access the waiver of consent form and two measurement instruments, hosted on two secure Internet web sites: a professional survey hosting service at <http://www.surveygizmo.com>, which is SSL-secured, and a psychometric test provider at <http://www.myskillsprofile.com>, which protects all data from unauthorized individuals (anyone other than the researcher). Before they could access the first instrument's content, participants encountered a page hosted by <http://ww.surveygizmo.com> containing the waiver of consent form, which briefly described the study, duration, procedures, benefits, ethical assurances, possible risks, and contact information, followed by a checkbox to indicate agreement with the terms. (Appendix C contains the form.) Only those who marked the checkbox could continue to

the first instrument. A link to the second instrument appeared on the completion page of the first instrument. The two questionnaires were linked by a unique alphanumeric code chosen by the participant and entered into designated fields appearing on each questionnaire; there were no connections to the source of origination (such as the waiver of consent form, IP address, or e-mail address of the user).

The e-mail invitations and waiver of consent form mentioned the fact that participants who completed the survey instruments would have the option to receive immediate feedback on their MLQ30 scores, should they desire to see them. A file containing the results was automatically generated and e-mailed to the researcher and the respective participant after each completion. Further, participants had the option of requesting the final study report once completed, by replying to the researcher's e-mail. E-mailing the researcher was necessary to indicate this preference because participant identities were not connected to any web site activity (unless participants used their real names as linking codes) to protect anonymity.

After one week, a follow-up e-mail was sent to all potential or current participants using the NAPW online messaging system, which reminded recipients of the research study's nature and purpose and provided an Internet link to the waiver of consent form and questionnaires. A sentence was included to thank those who had already participated and advise them to disregard the message. One week after that time, a final follow-up e-mail with the same content was sent. The first two e-mails contained a sentence stating that recipients could reply at any time to opt out of all future e-mails.

For participant ease, the questions were comfortably spaced over many lines, rather than being densely packed and difficult to read (Babbie, 2010). Questions gathering descriptive information, such as demographics (age, ethnicity, and country), job title, industry, and a brief self-assessment of job performance over the past year (response options are Excellent, Good, Satisfactory, Not satisfactory, and Not applicable) were placed at the end of the questionnaires so as to leave the mundane questions for last and inspire greater interest in participation at the beginning (MySkillsProfile.com, 2009, p. 5). To avoid creating apprehension related to the stigma of being considered a “neurotic” person, the term “negative emotions” was used in the study description.

Data Processing

Descriptive Statistics

Participants’ values for age and age group (whole numbers and decade categories, using the following groupings: under 20, 20 to 29, 30 to 39, 40 to 49, 50 to 59, 60 to 69, 70 to 79, 80 to 89, and 90 to 99), ethnicity (Asian, Black, Caucasian, Native American, Latino, or Mixed Race), job title (open answer to be categorized as CEO, President, President and CEO, Other C-level Executive, Director, Owner, Manager, or Other Leader), industry (70 response options provided by the MLQ30), and self-assessment of job performance in the past year (Excellent, Good, Satisfactory, Not Satisfactory, or Not Applicable) were examined (MySkillsProfile.com, 2009, p. 5). The mean for age, percentages for age group, percentages for each ethnicity, job title, and industry, and percentages and mode for the self-assessment rating were reported. The age and ethnicity

data were used to make comparisons to national averages where such data was available. Since all participants were female, considerations of the national percentage of female executives were made. Job titles and industries were grouped to examine differences in Neuroticism and Lie scale mean values. Self-assessment rating was correlated with Neuroticism scale scores.

Inferential Statistics

The variables were measured at three levels: Neuroticism, three components of Neuroticism, and thirty transactional and transformational leadership competencies. To test for the hypothesized relationships among the variables, the statistical tests known as Pearson product moment correlation and multiple linear regression were applied to the data gathered. The software program SPSS was employed as an analytical tool. All analyses tested for significance at the .05 and .01 levels. To test Hypothesis 1, Pearson correlation tests were used to determine whether and what kind of relationships exist between the thirty tested leadership competencies and Neuroticism; calculating the Pearson correlation coefficient (r scores) indicated the degree and direction of correlations between Neuroticism and the thirty leadership competencies.

Similarly, Hypothesis 2 was tested by examining the results of the Pearson correlation test conducted for Hypothesis 1 so that the degree and direction of the relationships between those ten leadership competencies which fall under the two categories Communicating and Presenting, and Relating and Supporting could be considered alongside Neuroticism. These competencies include:

- Facilitating and Improving Communication;
- Influencing and Persuading People;
- Managing Feelings and Emotions;
- Speaking with Confidence and Presenting to Groups;
- Writing and Reporting, Relating and Networking;
- Listening and Showing Understanding;
- Building Trust and Modeling Integrity;
- Identifying and Resolving Conflict; and
- Cultivating Teamwork and Collaboration.

Then, a multiple regression analysis using the simultaneous method was used to identify the best fitting model in which leadership competencies with statistically significant relationships to Neuroticism account for the variance in Neuroticism scores.

To test Hypothesis 3, Pearson correlation tests were used to determine the degree and direction of the relationship between scores of the Neuroticism items testing for Unstable Mood and Anxiety and the following eleven leadership competencies:

- Attracting and Managing Talent;
- Motivating People and Inspiring Them to Excel;
- Coaching and Developing People;
- Adapting and Coping with Pressure;
- Managing Plans and Projects;
- Facilitating and Improving Communication;
- Influencing and Persuading People;

- Managing Feelings and Emotions;
- Relating and Networking;
- Listening and Showing Understanding; and
- Identifying and Resolving Conflict.

Finally, to test Hypothesis 4, Pearson correlation tests will be used to determine the degree and direction of the relationship between Neuroticism items testing for Low Self-Esteem and the following seven leadership competencies:

- Developing Strategy and Acting Strategically;
- Executing Strategies and Plans;
- Showing Courage and Strength;
- Displaying Initiative and Drive;
- Managing Plans and Projects;
- Speaking with Confidence and Presenting to Groups; and
- Self-Deception.

Limitations and Assumptions of Method

As previously discussed in the Design Validity subsection of the Research Design section, this study's results should be interpreted with caution due to the following factors: the common association membership of the sample (NAPW); the potential demographic unrepresentativeness of the sample due to the common gender; the selection of only those executives with a certain degree of Internet proficiency; the selection of

only those executives who value research, are interested in the research topics, and/or have the available time to participate; the tendency for self-report participants to distort their responses; and the potential influence of external stressors on emotional state during the time of testing, which may influence Neuroticism scores. Additionally, responding to the Neuroticism scale of the EPQ-RS may have created reactivity by influencing participants' judgments of their leadership competencies, which may have influenced their MLQ30 scores. The MLQ30's Impression Management and Self-Deception scales proved useful in identifying when self-enhancing exaggeration occurred.

The theoretical frameworks used in the chosen testing instruments limited the types of data collected and analyzed in this study, which may have created gaps in understanding the complex relationships among the variables; further, mediating variables remained unidentified. Because MLQ30 items are answered on a Likert scale, there may be inequality among the response intervals, which may not accurately reflect differences among scores. And, because EPQ-RS response options do not represent a wide spectrum but, rather, force participants to choose between only two options (Yes or No), subtle tendencies may go undetected. This lack of sensitivity may make significant relationships more difficult to identify than if a wider range of response options were offered: a Type II error.

All multiple regression analyses assume an absence of multicollinearity (Gujarati, 2003); however, many scales of the normative MLQ30 are significantly intercorrelated (Beazer & Cameron, 2011, p. 46). The problem was compensated for by testing for

collinearity after the data was collected to determine whether variables needed to be removed for a significant model to be identified (Beazer & Cameron, 2011, p. 46).

Ethical Assurances

This study was carried out in accordance with the American Psychological Association's (2010) ethical standards to protect the privacy and well-being of participants. Participation was entirely voluntary, and there were no negative consequences to opting out. Harm to participants was minimized by maintaining anonymity and confidentiality, by giving them information regarding what the research would entail through the use of a waiver of consent form, including the risks of participation, and by providing a list of professional mental health provider directories.

No identifying information or responses provided by the participants were released or disclosed to protect confidentiality. All data was stored securely; during the time of study conduction, any data entered and saved electronically was password-protected and never shared, and all web sites on which data was entered by participants were digitally secured. Research materials and data will be kept for a minimum of five years after publication per APA guidelines, after which they will be deleted.

Participation was anonymous as responding to items on the Internet forms did not allow for the provision of mailing or e-mail addresses, names, or other distinctly identifying information, nor was digital data collected to allow the researchers or anyone else to link identities with responses to any reasonable degree. Use of a waiver of consent form enabled participants to avoid providing their names, which would have identified

them as participants. Those who feared being identified by their demographic information could choose not to respond to the related items; a message regarding this was included in the instructions. Also in the instructions, participants were asked to optionally send a brief e-mail to the researcher by a specified date to indicate that they wished to receive a copy of the final report, thereby allowing for communication with the researcher in a way that did not associate identities with any responses returned.

These protections were important because the release of participant responses in association with their identities could lead to problems in their professional and/or personal lives (Babbie, 2010). Those who scored highly on neuroticism or lowly on particular leadership competencies, and whose scores become known to a wider audience in the community, could experience negative impacts on their reputations, possibly leading to the loss of job position or, at the least, embarrassment and/or poorer leadership outcomes due to uncooperative followers.

Another ethical concern was the possibility of psychological harm; participants might have engaged in self-judgment and developed lowered self-esteem or self-confidence as a result of observing their own survey responses and assuming undesirable results (Babbie, 2010). Common sense allows one to guess which responses are socially undesirable when the topics are emotional and related to functioning at work. Discovering that one has a low level of emotional stability or work competence could conceivably produce self-doubt, which could impact functioning.

To minimize this risk, participants were given information on the waiver of consent form regarding what participating in the research entailed. All potential risks

associated with participation were described in the instructions so that participants could easily judge whether taking such risks would be worthwhile and acceptable to them. Those who believed they might be vulnerable could choose not to participate. Before receiving access to the questionnaire content online, participants had to agree to the terms by checking a box marked ‘Agree’ below the description of the study and its potential risks on the waiver of consent form. If the box was not checked or the ‘Disagree’ box was checked, participants were unable access the instruments, thereby preventing participation. In case participants felt that they may need professional mental health support, they were provided the following directories to find a private practice psychotherapist or low cost mental health provider in their area or available via phone or Internet chat: <http://www.psychologytoday.com>, <http://www.find-a-therapist.com>, <http://www.networktherapy.com>, <http://www.liveperson.com/experts>, and any form of the Yellow Pages.

Institutional approval was received before this study was carried out. The researcher informed The Chicago School of Professional Psychology’s Institutional Review Board of the nature of the study and any potential risks to participants. They determined that there were no undue risks of harm that indicated the need to alter the study design.

Chapter Summary

This chapter began by offering a review of the problem statement describing the currently understood nature of neuroticism’s impact on general leadership performance

and the aim of the study, to provide a more detailed understanding of the relationship between neuroticism and specific leadership competencies. Four hypotheses are listed that include two levels of measurement. This study is quantitative and correlational and did not establish causality among variables. It employed two questionnaires at one point in time, administered to 112 C-level executives and presidents who are members of the National Association of Professional Women. The EPQ-RS was completed first, and the MLQ30 was completed second.

Participants were initially contacted and pre-screened via e-mail to determine eligibility (based on the criterion of job autonomy, which may determine whether neuroticism can have an impact on leadership performance), followed by two reminder e-mails. Participants completed these questionnaires in digital format over the Internet, and their confidentiality and anonymity were protected. They had to agree to the waiver of consent form to access the questionnaire data, which ensured their knowledge of the potential risks to their psychological well-being and reputation.

After all the data was gathered, Pearson correlation tests and a multiple regression analysis were performed to discover the degree and direction of relationships and the relationships of greatest predictive significance. Numerous potential threats to validity and reliability are discussed, and methodological limitations and related solutions to be implemented are described. In the next chapter, the research findings are presented without interpretation, along with an analysis of the study's design; whether the hypotheses were supported or unsupported is discussed, design flaws are reported, and descriptive statistics are examined for comparison against existing research data.

Chapter 4: Findings

Chapter Overview

This chapter presents the findings based on the data collected. First, the descriptive statistics are presented without interpretation, including comparisons to demographic incidence data. Appendix H contains detailed descriptive statistics tables describing the sample and all variables. Then, the inferential statistics are presented without interpretation, organized by each of the four hypotheses and accompanied by data tables. Appendix I contains detailed regression statistics tables and figures. Additional findings regarding differences among job title, industry, and self-assessment rating are presented. An analysis of the study design is then presented to discuss the potential strengths and weaknesses of the study's methodology. Following this section is a discussion that addresses how the findings correspond to prior research and the theoretical frameworks described in the literature review as well as briefly identifying a few potential implications for practice. Finally, a chapter summary is provided.

Findings

Descriptive Statistics

In all, 112 females participated in the current study. Of those 86 who provided age data, the mean age was 50.41 ($SD = 10.66$, min = 23, max = 81), and the majority were in their 40s and 50s (24% and 36%, respectively). According to the results of the Daring to Lead 2011 Survey (Cornelius, Moyers, & Bell, 2011), 25.1% of executive directors were in their 40s and 36.8% were in their 50s, an almost identical breakdown to that of this sample. The ethnicity breakdown was similar to that of the national data for women working in management, business, and financial operations in order, but not actual percentages (Bureau of Labor Statistics, 2012a). Table 2 presents the sample and national ethnicity data for comparison.

Table 2

2012 National Ethnicity Data for Females Working in Management, Business, and Financial Operations and Sample Ethnicity Data

Ethnicity	National Percentage	Sample Percentage	<i>n</i>
White	81.0	75.2	79
Black	10.3	15.2	16
Hispanic/Latino	8.9	2.9	3
Asian	5.9	0.9	1
Mixed	-	2.7	3
Other	-	2.9	3
Missing Data	-	6.3	7

Source: Bureau of Labor Statistics (2012a). Employed persons by occupation, race, Hispanic or Latino ethnicity, and sex. Retrieved online at <http://www.bls.gov/cps/cpsaat10.htm>

According to the 2011 Catalyst Census (Soares et al., 2011), 14.4% of all executive officer positions were held by 710 women (out of 5,018 total), a figure not significantly different from that of the previous year; during both years, one quarter or more of U.S. companies had female executive officers. In addition, according to the Bureau of Labor Statistics (2012b), women composed 43.6% of the 22,678 individuals employed in management, business, and financial operations occupations and 27.4% of the 1,513 individuals employed as chief executives in 2012.

Only top executives such as CEOs, presidents, president/CEOs, and Directors were selected for invitation to participate in this study, but some participants may have switched job titles since publication of their NAPW profiles or used an alternate job title in place of the one listed; hence, mostly top executives as well as a smaller proportion of other organizational leader types appeared to have made up the study sample (managers, owners, group leaders, and so forth). Eighty-four of the one hundred and four participants who provided job title data (80.8%) claimed to be CEOs, presidents, president/CEOs, directors, and other C-level executives, and four claimed to be managers (3.8%). (Complete job title data can be found in Appendix H.) Examination of the NAPW profiles of those individuals who claimed to be managers showed that some did indeed have top executive job titles: one was listed as a CEO and another was listed as a president (profiles of the other two could not be found). If participants were honest in the self-descriptions on their NAPW profiles, one can assume that all participants possess experience working as a top executive.

The participants came from a variety of industries, as type of industry was not controlled for (nor was organization size). The largest proportions of the 86 participants who provided industry data worked in consulting (16.3%), other services (11.5%), education (9.6%), and health services (9.6%). (A table of industry data can be found in Appendix H.)

At the end of the MLQ30, participants were asked to rate their leadership performance with a single-item Self-Assessment rating. The majority of the 84 participants who responded to this item gave Self-Assessment ratings of Excellent (39.3%) or Good (46.4%), the latter being the mode. The fact that most participants rated their performance as Good matches well with the fact that mean competency scores all ranged from six to seven, indicating an intermediate skill (5-6) or a fairly developed yet possibly still developing skill (7; Beazer & Cameron, 2011). (Complete assessment and variable data can be found in Appendix H.)

Inferential Statistics

Hypothesis 1. The first hypothesis was that over half (16 or more) of the leadership competencies would be significantly negatively correlated with Neuroticism. The results of a Pearson product-moment correlation analysis, which describes the strength and relationship of a linear relationship between two variables, revealed significant negative correlations for 27 of the 30 leadership competencies at the .05 level (two tails), 22 of which were significant at the .01 level ($N = 112$). The effect sizes were small to moderately large, ranging from -.102 to -.456. There were no significant positive

correlations. The three competencies not significantly correlated with Neuroticism were Speaking with Confidence and Presenting to Groups, Writing and Reporting, and Managing Knowledge and Information. Table 3 contains the correlation coefficients and significance values. Because the vast majority of competencies were inversely related to Neuroticism, the first hypothesis was fully supported and the null hypothesis was rejected. These results suggest that greater negative emotionality tends to be found in top executives with worse performance in most leadership areas.

Table 3

Pearson Correlation Statistics for Neuroticism and Leadership Competencies

Leadership Competency	Pearson Correlation	Sig. (2-tailed)
Learning/Developing Continuously	-.456	.000**
Adapting/Coping with Pressure	-.438	.000**
Identifying/Resolving Conflict	-.433	.000**
Managing Feelings/Emotions	-.402	.000**
Making Sound Decisions	-.356	.000**
Coaching/Developing People	-.354	.000**
Motivating People/Inspiring Them to Excel	-.350	.000**
Managing/Implementing Change	-.340	.000**
Attracting/Managing Talent	-.337	.000**
Managing Culture/Diversity	-.337	.000**
Executing Strategies/Plans	-.329	.000**
Creating and Innovating	-.328	.000**
Managing Plans/Projects	-.323	.001**
Building Trust/Modeling Integrity	-.307	.001**
Facilitating/Improving Communication	-.306	.001**
Listening/Showing Understanding	-.299	.001**
Showing Courage/Strength	-.297	.001**
Developing Strategy/Acting Strategically	-.297	.001**
Improving Processes/Systems	-.294	.002**
Relating/Networking	-.292	.002**
Cultivating Teamwork/Collaboration	-.279	.003**
Thinking and Managing Globally	-.271	.004**
Analyzing Issues/Problems	-.263	.005**
Displaying Initiative/Drive	-.237	.012**
Influencing/Persuading People	-.230	.015*
Managing Customer Relationships/Services	-.217	.022*
Managing Costs/Financial Performance	-.208	.028*
Writing/Reporting	-.172	.069
Managing Knowledge/Information	-.172	.070
Speaking w/Confidence/Presenting to Groups	-.102	.284

*Correlation is significant at the 0.05 level.

**Correlation is significant at the 0.01 level.

Hypothesis 2. The second hypothesis was that those leadership competencies which are social in nature, belonging to the categories Communicating and Presenting,

and Relating and Supporting, would have the strongest significant negative correlations with Neuroticism. The results of a Pearson correlation analysis (Table 3) revealed that the strongest significant negative correlations corresponded to four competencies with similar values (close to $r = -.40$): Learning and Developing Continuously, Adapting and Coping with Pressure, Managing Feelings and Emotions, and Identifying and Resolving Conflict. Two of them belong to the expected socially-based leadership categories: Managing Feelings and Emotions belongs to the category Communicating and Presenting, and Identifying and Resolving Conflict belongs to the category Relating and Supporting. (Appendix A contains competency definitions.) Neuroticism was most strongly associated with half social and half non-social competencies. These results partially supported the second hypothesis.

Multiple regression analysis for Neuroticism prediction. A multiple regression analysis was performed to test how well the 27 significantly correlated leadership (p fell below .05) predict Neuroticism in organizational leaders. Multiple regression analysis allows for the identification of a predictive model and determination of the degree to which the significant competencies composing the model predict the variance in Neuroticism scores. Multicollinearity poses a problem in multiple regression analyses because high correlations between two or more predictor variables cause difficulties in inferring the contribution of each variable to the fit of the regression model (Gujarati, 2003). The results of a preliminary multiple regression analysis using the simultaneous method revealed that 17 of the 27 leadership competencies had variance inflation factor

(VIF) values above 4.0, indicating high levels of multicollinearity (Allison, 1999). (Table 4 contains the multicollinearity data.) Because these 17 competencies were not distinctive enough from other competencies, they were excluded so that only the remaining ten were used for the multiple regression analysis.

Table 4

Multicollinearity Statistics for Leadership Competencies with a Statistically Significant Relationship to Neuroticism

Leadership Competency	VIF
Managing Plans/Projects	7.480
Improving Processes/Systems	7.089
Making Sound Decisions	6.441
Developing Strategy/Acting Strategically	5.741
Executing Strategies/*Plans	5.533
Facilitating/Improving Communication	5.218
Motivating People/Inspiring Them to Excel	5.080
Managing/Implementing Change	4.857
Coaching/Developing People	4.634
Relating/Networking	4.599
Attracting/Managing Talent	4.508
Influencing/Persuading People	4.324
Building Trust/Modeling Integrity	4.312
Listening/Showing Understanding	4.269
Cultivating Teamwork/Collaboration	4.202
Showing Courage/Strength	4.132
Creating and Innovating	4.097
Adapting/Coping with Pressure	3.844*
Analyzing Issues/Problems	3.720*
Learning/Developing Continuously	3.639*
Identifying/Resolving Conflict	3.634*
Displaying Initiative/Drive	3.540*
Managing Culture/Diversity	3.060*
Managing Feelings/Emotions	2.944*
Managing Customer Relationships/Services	2.820*
Thinking and Managing Globally	2.740*
Managing Costs and Financial Performance	2.677*

* Sufficiently distinctive competencies included in the multiple regression analysis.

Finally, a multiple regression analysis using the simultaneous method, in which the remaining ten competencies were entered, resulted in one significant model for prediction of Neuroticism scores. The results of the regression indicated that linear

combination of the two competencies Learning and Developing Continuously ($\beta = -.282$, $t = -2.167$, $p = .033$) and Adapting and Coping with Pressure ($\beta = -.257$, $t = -2.018$, $p = .046$) made up the best fitting model for predicting Neuroticism scores, explaining 24.6% of the variance (Adjusted $R^2 = .246$, $F [10, 101] = 4.620$, $p < .01$). (The other eight competencies were not significant predictors in this model. Appendix I contains data tables and figures resulting from the multiple regression analysis.) Because these two competencies fall under neither the category Communicating and Presenting nor Relating and Supporting but, rather, both fall under Developing and Changing, the null hypothesis could not be rejected.

Hypothesis 3. For the purposes of clarity, the third hypothesis is broken down into two subhypotheses. These include Unstable Mood and Anxiety. Within the subhypothesis concerning Anxiety arose several concerns, including the need to create a subscale in order to proceed with correlation analysis.

Unstable Mood. The first subhypothesis of the third hypothesis was that Unstable Mood, as measured by the relevant EPQ item, would have significant negative correlations with 11 specific leadership competencies:

- Attracting and Managing Talent;
- Motivating People and Inspiring Them to Excel;
- Coaching and Developing People;
- Adapting and Coping with Pressure;

- Managing Plans and Projects;
- Facilitating and Improving Communication;
- Influencing and Persuading People;
- Managing Feelings and Emotions;
- Relating and Networking;
- Listening and Showing Understanding; and
- Identifying and Resolving Conflict.

Originally, the researcher was hoping to create a viable subscale to measure Unstable Mood, but only one EPQ item had relevance and face validity. The item, which reads “Does your mood frequently go up and down?”, will be used as a measure of Unstable Mood and treated as a variable that will be analyzed for relationships with leadership competencies, though the limitations of using a single-item measure may temper the strength of any conclusions made as a result of this Pearson correlation analysis. On the other hand, this measure may have adequate validity due to what it measures; one research study comparing standardized measures of psychosocial variables with single-item screening measures found that single-item self-report measures were appropriate for certain kinds of variables but not others, namely: depression, anxiety, and social support, which correlated significantly with psychometrically sound measures, but not domestic violence or stress (Sagrestano, 2002). Therefore, a single-item measure of Unstable Mood may be similarly valuable to the single-item measures of mood examined in the study.

The results of a Pearson product-moment correlation analysis revealed significant negative correlations between responses to the first item of the EPQ, measuring Unstable

Mood, and three of the eleven expected competencies: Coaching and Developing People, Adapting and Coping with Pressure, and Managing Feelings and Emotions (EdITS, 2001). The correlation statistics for this subhypothesis are presented in Table 5. Therefore, only the general leadership skills of working to develop people and managing one's own emotions were associated with mood fluctuations. The subhypothesis that Unstable Mood would be associated with lower performance in various leadership areas related to social influence and task completion was partially supported as some socially-based competencies but no task-related competencies were related to this variable.

Table 5

Pearson Correlation Statistics for Unstable Mood and Leadership Competencies

Leadership Competency	Pearson Correlation	Sig. (2-tailed)
Managing Feelings/Emotions	-.288	.002**
Adapting/Coping with Pressure	-.235	.013**
Coaching/Developing People	-.186	.049*
Listening/Showing Understanding	-.164	.083
Identifying/Resolving Conflict	-.159	.094
Relating/Networking	-.140	.142
Managing Plans/Projects	-.132	.164
Attracting/Managing Talent	-.127	.182
Facilitating/Improving Communication	-.109	.253
Motivating/Inspiring to Excel	-.106	.268
Influencing/Persuading People	-.094	.326

*Correlation is significant at the 0.05 level.

**Correlation is significant at the 0.01 level.

Anxiety. The second subhypothesis of the third hypothesis was that Anxiety, as measured by the relevant EPQ items, would have significant negative correlations with

the same eleven specific leadership competencies as listed in the previous section. Before proceeding with the correlation analysis, a subscale needed to be created from the items with anxiety content.

Factor analysis to create the Anxiety subscale. The five anxiety-related items from the EPQ-RS (items 21, 24, 27, 30, and 46) were subjected to factor and reliability analyses to create an Anxiety subscale. They are worded, “Would you call yourself a nervous person?” (Item 21), “Are you a worrier?” (Item 24), “Do you worry about awful things that might happen?” (Item 27), “Would you call yourself tense or ‘highly strung’?” (Item 30), and “Do you suffer from ‘nerves’?” (Item 46; EdITS, 2001).

Three well-recognized criteria for the factorability of a correlation were used. Firstly, all five of the items correlated at least .3 with at least one other item, suggesting reasonable factorability (Table 6 presents the correlation matrix.). Secondly, the Kaiser-Meyer-Olkin measure of sampling adequacy, which determines whether partial correlations are small enough, was .58, reaching the recommended value of .6, and Bartlett’s test of sphericity, which determines whether the correlation matrix is an identity matrix (a square matrix with diagonal elements equal to one and non-diagonal elements equal to zero, making the factor model inappropriate), was statistically significant ($\chi^2(10) = 62.27, p < .01$). Finally, the communalities (sums of the variables’ squared loadings) were all above .3 (presented in Table 7), further confirming that each item shared some common variance with other items. Factor analysis was conducted with all five items after consideration of these indicators.

Table 6

Correlation Matrix for Anxiety Items, with Significance (One-Tailed)

Job Title	Nervous person	Worrier	Awful Things	Tense/Highly-Strung	Nerves
Nervous person	1.00	.154 (.053)	.015 (.437)	.248 (.004)	.248 (.004)
Worrier	.154 (.053)	1.00	.436 (.000)	.120 (.103)	.264 (.002)
Awful things	.015 (.437)	.436 (.000)	1.00	-.047 (.311)	.299 (.001)
Tense/Highly-strung	.248 (.004)	.120 (.103)	-.047 (.311)	1.00	.303 (.001)
Nerves	.248 (.004)	.264 (.002)	.299 (.001)	.303 (.001)	1.00

Principle components analysis was used to identify the items to be used to compute composite Anxiety subscale scores; the purpose of this eigenvector procedure is to simplify multivariate data into principle components so that the component which explains most of the variation in the variables can be identified (Abdi & Williams, 2010). The initial eigenvalues showed that the first factor, labeled as Worry/Nerves, explained 37% of the variance and the second factor, labeled Self-described Anxious, explained 25% of the variance (based on extraction sums of the squared loadings). The first factor solution was preferred because of the higher percentage of variance and the greater number of items with relatively high factor loadings (.6 or higher). Table 7 contains the factor loadings matrix.

Table 7

Factor Loadings and Communalities Based on a Principle Component Analysis with Varimax Rotation for Five Anxiety Items from the Short Version of the Eysenck Personality Questionnaire - Revised (EPQ-RS) [N = 112]

Item	Worry/Nerves	Self-described Anxious	Communality
Do you suffer from ‘nerves’?	.738	.126	.561
Are you a worrier?	.694	-.379	.625
Do you worry about awful things that might happen?	.599	-.638	.765
Would you call yourself a nervous person?	.490	.514	.504
Would you call yourself tense or ‘highly strung’?	.472	.636	.628

Two items were eliminated because they failed to meet a minimum criterion of having a primary factor loading of .55 or above; the researcher selected this value as the cutoff, because according to Comrey and Lee (1992), a primary factor loading of .55 is good, one of .63 is very good, and one of .70 is excellent. The item worded “Would you call yourself a nervous person?” did not load above .6 on any factor (EdITS, 2001). The item worded “Would you call yourself tense or ‘highly strung’?” had factor loadings between .5 and .6 on both Worry/Nerves and Self-described Anxious (EdITS, 2001). The three retained items, worded “Are you a worrier?” (Item 24), “Do you worry about awful things that might happen?”(Item 27), and “Do you suffer from ‘nerves’?” (Item 46), all loaded between .6 and.7 on Worry/Nerves (EdITS, 2001). A principle-components factor analysis of the remaining three items was conducted, using varimax rotation. Factor models are rotated to be certain that only some of the variables’ loadings are non-zero,

and varimax rotation rearranges the coordinates in principle components analysis to maximize the sum of the variances of the squared loadings and to describe each factor with the most parsimonious linear relationship possible (each variable will be related to only one factor maximum; Fabrigar & Wegener, 2011). All items had primary loadings over .5 and only one item had a cross-loading above .3 (“Do you suffer from ‘nerves’?”; EdITS, 2001).

Cronbach’s alpha was used to examine the internal consistency for each of the scales; this statistic is a test of reliability that determines whether the items measure a similar general construct. The alphas were moderate at .60 for Worry/Nerves (three items) and low at .35 for Self-described Anxious (two items). Alpha values could not be substantially increased by eliminating more items in either scale. Although the alpha for the Worry/Nerves factor was not very high, the factor analysis results indicated that these items were beneficial to use together as a subscale. Composite scores were created for the Worry/Nerves factor by calculating the mean of the three items which had their primary loadings on the first factor; these subscale scores were then used in a Pearson correlation analysis to test for relationships with the eleven leadership competencies. (Descriptive statistics are presented in Appendix H.)

Correlation results for Anxiety. The results of a Pearson product-moment correlation analysis revealed significant negative correlations between the Anxiety subscale and eight of the eleven expected competencies; the correlation statistics for this subhypothesis are presented in Table 8.

Table 8

Pearson Correlation Statistics for Anxiety and Leadership Competencies

Leadership Competency	Pearson Correlation	Sig. (2-tailed)
Adapting/Coping with Pressure	-.339	.000**
Coaching/Developing People	-.319	.001**
Identifying/Resolving Conflict	-.303	.001**
Managing Feelings/Emotions	-.290	.002**
Managing Plans/Projects	-.288	.002**
Attracting/Managing Talent	-.284	.002**
Motivating/Inspiring to Excel	-.275	.003**
Facilitating/Improving Communication	-.196	.038*
Influencing/Persuading People	-.174	.066
Relating/Networking	-.150	.115
Listening/Showing Understanding	-.103	.281

*Correlation is significant at the 0.05 level.

**Correlation is significant at the 0.01 level.

Due to Anxiety's inverse relationships with almost all of the expected socially-based and task-related leadership competencies, this subhypothesis was largely supported. Anxiety was associated with poor performance in a wide variety of leadership areas. Because statistically significant correlations were found in both this variable's case and that of Unstable Mood, the null hypothesis for the third hypothesis was rejected.

Hypothesis 4. The fourth hypothesis was that Low Self-Esteem, as measured by the relevant EPQ items, would have a significant negative correlation with seven specific leadership competencies:

- Developing Strategy and Acting Strategically;
- Executing Strategies and Plans;

- Showing Courage and Strength;
- Displaying Initiative and Drive;
- Managing Plans and Projects;
- Speaking with Confidence and Presenting to Groups; and
- Self-Deception.

Before proceeding with the correlation analysis, a subscale needed to be created from the items with low self-esteem content.

Factor analysis to create the Low Self-Esteem subscale. The four low self-esteem-related items from the EPQ-RS were subjected to factor and reliability analyses to create a Low Self-Esteem subscale. They are worded as “Are your feelings easily hurt?” (Item 12), “Are you often troubled by feelings of guilt?” (Item 19), “Do you worry too long after an embarrassing experience?” (Item 44), and “Are you easily hurt when people find fault with you or the work you do?” (Item 50; EdITS, 2001).

Three well-recognized criteria for the factorability of a correlation were used. First, all four of the items correlated at least .3 with at least one other item, suggesting reasonable factorability. (Table 9 presents the correlation matrix.) Second, the Kaiser-Meyer-Olkin measure of sampling adequacy was .66, exceeding the recommended value of .6, and Bartlett’s test of sphericity was statistically significant ($\chi^2(6) = 60.50, p < .01$). Finally, the communalities were all above .3 (presented in Table 10), further confirming that each item shared some common variance with other items. Factor analysis was conducted with all four items after consideration of these indicators.

Table 9

Correlation Matrix for Low Self-Esteem Items, with Significance (One-Tailed)

Job Title	Feelings Easily Hurt	Guilt	Embarrassing	Hurt/Find Fault
Feelings Easily Hurt	1.00	.344 (.000)	.343 (.000)	.413 (.000)
Guilt	.344 (.000)	1.00	.368 (.000)	.138 (.073)
Embarassing	.343 (.000)	.368 (.000)	1.00	.290 (.001)
Hurt/Find Fault	.413 (.000)	.138 (.073)	.290 (.001)	1.00

Principle components analysis was used to identify the items to be used to compute composite Low Self-Esteem subscale scores. Only one factor was found, and the initial eigen value showed that it explained 49% of the variance. No items were eliminated because all four items met a minimum criterion of having a primary factor loading of .55 or above (Comrey & Lee, 1992). Finally, a principle-components factor analysis of the four items was performed with no rotation, since the solution cannot be rotated when only one component is extracted. The factor loading matrix for this final solution is presented in Table 10.

Table 10

Factor Loadings and Communalities Based on a Principle Component Analysis for Four Low Self-Esteem Items from the Short Version of the Eysenck Personality Questionnaire - Revised (EPQ-RS) [N = 112]

Item	Low Self-Esteem	Communality
Are your feelings easily hurt?	.772	.595
Do you worry too long after an embarrassing experience?	.723	.522
Are you often troubled by feelings of guilt?	.649	.421
Are you easily hurt when people find fault with you or the work you do?	.646	.418

Cronbach's alpha was used to examine the internal consistency of the scale. The alpha was moderate at .65 and could not be increased by eliminating items in the scale. Although the alpha was not very high, the factor analysis results indicated that these items were useful to use together as a subscale. Composite scores were created for the Low Self-Esteem factor by calculating the mean of the four items; these subscale scores were then used in a Pearson correlation analysis to test for relationships with the seven leadership competencies. (Descriptive statistics are presented in Appendix H.)

Correlation results for Low Self-Esteem. The results of a Pearson product-moment correlation analysis revealed significant negative correlations between Low Self-Esteem and five of the expected competencies: Developing Strategy and Acting Strategically, Executing Strategies and Plans, Showing Courage and Strength, Managing Plans and Projects, and Self-Deception. The correlation coefficients and significance values are presented in Table 11. Since over half of the expected competencies were inversely related to the Low Self-Esteem subscale, the fourth hypothesis was mostly supported. Low Self-Esteem was associated with poor performance in at least a few leadership areas, especially those pertaining to strategy, project management, and showing courage. It was most strongly negatively associated with insight regarding one's leadership and management strengths and weaknesses (a high Self-Deception score indicates much insight; Beazer & Cameron, 2011). Because there was at least one significant negative correlation, the null hypothesis was rejected.

Table 11

Pearson Correlation Statistics for Low Self-Esteem and Leadership Competencies

Leadership Competency	Pearson Correlation	Sig. (2-tailed)
Self-Deception	-.446	.000**
Developing Strategy/Acting Strategically	-.291	.002**
Managing Plans/Projects	-.288	.002**
Showing Courage/Strength	-.263	.005**
Executing Strategies/Plans	-.240	.011**
Displaying Initiative/Drive	-.144	.129
Speaking w/Confidence/Presenting to Groups	.011	.912

*Correlation is significant at the 0.05 level.

**Correlation is significant at the 0.01 level.

Additional Findings

Differences in the mean Neuroticism and Lie scores of the various job title and industry groups were examined. Across all participants, Neuroticism scores ranged from zero to eleven (out of twelve) and Lie scores ranged from zero to sixteen (out of a sixteen). There was a statistically significant difference between the mean Neuroticism scores of the highest and lowest-scoring job title group ($t(12) = -2.58, p < .05$). Table 12 contains job title groups in descending order from highest to lowest mean Neuroticism score ($SD = 2.75$). There was no significant difference between the mean Lie scores of the highest- (8.87) and lowest-scoring (6.50) job title groups ($t(27) = 1.73, p = .09$).

Table 12

Job Title Groups from Highest to Lowest Mean Neuroticism Score

Job Title	Mean Neuroticism	<i>n</i>
Other C-level	5.67	3
Other Leader	5.00	6
CEO	4.60	25
Manager	4.00	4
President	3.65	23
Missing Data	3.63	8
President/CEO	2.73	22
Owner	2.44	9
Director	2.27	11

There was a statistically significant difference between the mean Neuroticism scores of the highest and lowest-scoring industry group ($t(4) = -18.00, p < .01$). Table 13 contains industry groups in descending order from highest to lowest mean Neuroticism score (SD = 2.75).

Table 13

Industry Groups from Highest to Lowest Mean Neuroticism Score

Industry	Mean Neuroticism	<i>n</i>
Advocacy	7.00	1
Government	6.50	2
Entertainment/Leisure	6.25	4
Computers/Software	6.00	2
Advertising/Marketing	5.60	5
Medical/Health Care Devices	5.50	4
Aerospace/Automotive/Transportation Equipment	4.50	2
Retailing/Wholesaling	4.33	3
Investment Management	4.00	2
Community/Economic Development	4.00	1
Construction	4.00	1
Energy/Extractive Minerals	4.00	1
Real Estate Finance	4.00	2
Missing Data	3.63	8
Other Services	3.58	12
Education	3.50	10
Transportation	3.50	2
Consulting	3.24	17
Health Services	3.10	10
Computer-related Services	3.00	1
Diversified Financial Services/Insurance	3.00	2
High Technology/Electronics	3.00	1
Religion	3.00	1
Social Services	3.00	5
Accounting	2.00	1
Arts/Culture	2.00	2
Consumer Products	2.00	1
Real Estate Development	2.00	1
Telecommunications	2.00	1
Other Non-Profit	1.40	5
Pharmaceutical	0.00	2

There was also a statistically significant difference between the mean Lie score of the highest and lowest-scoring industry group (*t* and *p* values could not be calculated due to

there being one case each). Table 14 contains industry groups in descending order from highest to lowest mean Lie score ($SD = 3.18$).

Table 14

Industry Groups from Highest to Lowest Mean Lie Score

Industry	Mean Lie	n
Computer-Related Services	13.00	1
Real Estate Development	12.00	1
Advocacy	11.00	1
Aerospace/Automotive/Transportation Equipment	11.00	2
Energy/Extractive Minerals	11.00	1
Pharmaceuticals	10.00	2
Transportation	10.00	2
Other Non-Profit	9.80	5
Diversified Financial Services/Insurance	9.50	2
Construction	9.00	1
High Technology/Electronics	9.00	1
Telecommunications	9.00	1
Health Services	8.70	10
Government	8.50	2
Education	8.30	10
Other Services	8.17	12
Arts/Culture	8.00	2
Investment Management	8.00	2
Medical/Health Care Devices	8.00	4
Consulting	7.76	17
Retailing/Wholesaling	7.67	3
Community/Economic Development	7.00	1
Computers/Software	6.50	2
Entertainment/Leisure	6.50	4
Accounting	6.00	1
Real Estate Finance	6.00	2
Social Services	6.00	5
Advertising/Marketing	5.60	5
Religion	5.00	1
Consumer Products	3.00	1

Next, the relationship of Self-Assessment rating to Neuroticism was examined. Eighty-four participants responded to the Self-Assessment item. The results of a Pearson product-moment correlation analysis revealed a significant negative correlation between Self-Assessment rating and Neuroticism ($r = -.33, p < .01$, two-tails). This result indicated that more Neuroticism is slightly associated with the tendency to either perceive one's performance as lower or report it as lower for other reasons.

Due to the researcher's interest in understanding the relationships among low self-esteem, openness to feedback, and developmental capacity, additional Pearson product-moment correlational analyses were carried out. The results of one analysis revealed that Low Self-Esteem and the leadership competency Learning and Developing Continuously had a statistically significant negative relationship [$r = -.395, p < .01$] (the strength of the relationship approximately equaled that between Low Self-Esteem and Self-Deception [$r = -.446, p < .01$]). Feeling less than positive about one's self is therefore associated with poor ability or unwillingness to engage in self-development activities that are aided by receiving feedback. The results of another Pearson correlational analysis revealed that Self-Deception and Learning and Developing Continuously had a strong statistically significant positive relationship ($r = .720, p < .01$), indicating that as insight regarding one's leadership strengths and weaknesses increases (a high Self-Deception score means more insight), the ability to learn and develop closely matches those increases.

Analysis of Design

The numerous relationships found between Neuroticism and leadership competencies (27 out of 30) indicate that the sample size was large enough to detect significant relationships that can inform future research. These correlations and the small standard deviations of the variables, ranging from one to three (Table H7) [compared to the standardization sample's ranging from four to six, $N = 878$], indicate that the sample was sufficiently homogeneous and error variance was minimal. However, the items composing the EPQ-RS Anxiety and Low Self-Esteem subscales may not have been homogenous enough. The results pertaining to the subscales should be interpreted with caution, as they each consist of few items (four and three items, respectively) and the items lack a high degree of internal consistency (meaning each item measured a slightly different yet still related construct). Therefore, the subscales are not highly reliable measures of anxiety and low self-esteem, even though the Neuroticism scale as a whole has strong reliability statistics.

Future studies that test the relationships between the subscale variables and leadership competencies using reliable statistically validated personality instruments are needed to gather more conclusive data. Nonetheless, the statistically significant relationships found between Anxiety and Low Self-Esteem and various leadership competencies may be meaningful due to how well the items loaded together in factor analysis. And, despite its strong face validity, the single-item measure of Unstable Mood has uncertain internal validity and reliability; future studies should test for concurrent

validity and use a validated measure of this variable as a multi-item measure may or may not be more useful.

The EPQ-RS may have been completed in terms of participants' current emotional state based on recent events, not the general tendencies that make up a Big Five personality trait, a potential construct validity issue that could give way to Type I error (false positive). For example, a recent disaster, tragedy, or difficulty could cause negative emotions that lead participants to generalize about their emotional tendencies in a global fashion. (The researcher was originally planning to ask participants about such events, but decided such a question might be overly invasive and could result in a large proportion of missing data.)

Additionally, mood fluctuations may occur in women due to monthly hormonal changes, which is one of many reasons to compare this study's results to the way neuroticism may relate to male executives' leadership performance. However, reason to believe these threats to construct validity are not of concern may be found in the fact that the female norm for Neuroticism is 6.70, which is substantially higher than this sample's mean of 3.63 ($SD = 2.75$), and that the male norm for Neuroticism is 4.66, which is slightly higher than this sample's mean (Eysenck & Eysenck, 1994). These statistics suggest that the instrument accurately measured trait neuroticism, not transient mood states.

One internal validity problem which can hinder results in self-report studies occurs when participants lie about their tendencies; the participants of this study may have exaggerated certain answers to present a favorable image. As discussed in Chapter

3, reactivity to the EPQ-RS in the form of shame or low mood following increased awareness of regularly experienced negative emotions may have led to compensatory exaggeration of socially acceptable tendencies on the MLQ30. And, there are other reasons for doing so which are specific to the sample population. Individuals from a single professional association, however large, may be conscious of presenting a positive image to fellow members in case gossip is spread through the networking process. Or, perhaps more generally, executives may be accustomed to a culture in which one is expected to present a favorable but believable profile for business purposes. Common sense and knowledge of corporate history teach that not all top executives are honest and virtuous, though some are.

Lie, Impression Management, and Self-Deception scores served as indicators of the degree to which participants misrepresented themselves. EPQ-RS Lie scale items ask questions about whether participants have ever committed common unethical behaviors, like stealing, taking advantage of someone, failing to keep promises, blaming others, lateness to work, destroying or losing others' property, and having bad habits, behaviors in which most people have engaged at least sometimes in their lives (EdITS, 2001). Some exaggeration by participants to represent themselves as socially acceptable, competent, or otherwise pleasant may have occurred in this study, based on the moderate mean Lie score of 8.08 out of 16 possible points (compared to the female norm of 5.29, SD = 3.18). According to the EPQ-R manual (Eysenck & Eysenck, 1994), the female norm for the Lie scale is a mean of 5.29 (SD = 3.18), indicating that this study's sample presented a more virtuous image (possibly dishonestly) than the average population sample.

The MLQ30 Impression Management scale allows the tester to ascertain whether an accurate or honest profile of leadership and management abilities was presented by the respondent; high scorers are more self-critical than average, moderate scorers are generally honest or feel an average amount of pressure to provide a favorable image (the category into which the mean score for all participants fell), and low scorers use lies to inflate their image or answered items randomly (Beazer & Cameron, 2011). This sample's mean Impression Management score was 6.48 out of 10 (no norms were provided, but scores in the range of six to seven are considered moderate to somewhat high; Beazer & Cameron, 2011).

The MLQ30 Self-Deception scale measures how insightful respondents are about their leadership and management abilities (strengths and weaknesses) and their willingness to deceive themselves or others; high scorers are more insightful than average, moderate scorers have an average degree of insight (the category into which the mean score for all participants fell), and low scorers are severely lacking in insight and are possibly deceptive (Beazer & Cameron, 2011). This sample's mean Self-Deception score was 6.12 out of 10, which is considered a moderate score.

The moderate mean Lie score, the fact that 60% of participants had a Lie score higher than the female norm of 5.29 (6 and above), and the moderate to somewhat high Impression Management and Self-Deception scores suggest the possibility of a Type II error (false negative) because the presence of neuroticism and/or performance problems in some participants may have been missed. A method exists to determine the risk of this possibility in the case of Neuroticism. The EPQ-R manual (Eysenck & Eysenck, 1994)

recommends performing a Pearson product-moment correlation analysis to test whether there is a problematic relationship between Neuroticism and Lie scale scores, a method developed through the original researchers' validation efforts. If the correlation coefficient is -.5 or stronger, the authors suggest separating the groups into high and low Lie scale scores and conducting separate data analyses. For this study's sample, the Pearson correlation coefficient was $-.26$ ($p < .01$, two tails), indicating that self-enhancing exaggeration was not a serious enough problem to merit such efforts. The reason is that some self-enhancement (or socially acceptable behavior, as the Lie scale items test for) is normal and expected, and participant responses only become suspect when an abnormally high degree is reached.

The external validity concerns discussed in Chapter 2 remain potential risks. The selection method may have created an unrepresentative sample of female top executives in the United States due to the Internet-based nature of both invitation and participation, and the fact that numerous factors were not controlled for due to the generality of the research. Mediating variables and intergroup differences may later be identified (for example, differences among individuals of various age groups, industries, job titles, organization sizes and structures, technological savvy, emotional intelligence levels, and types or breadth of training experiences).

Discussion

The aim of this study was to increase understanding of the relationships between the Big Five factor neuroticism and leadership behaviors by examining a wider variety of

leadership competencies than previously studied. The five-factor theory of personality (nicknamed the Big Five theory) holds that every personality consists of varying degrees of five factors: neuroticism, extraversion, conscientiousness, agreeableness, and openness to experience (McCrae & John, 1992). The findings satisfied this general aim and will be discussed by hypothesis.

Hypothesis 1: Neuroticism and Thirty Leadership Competencies

The first hypothesis was that over half (16 or more) of the leadership competencies would have statistically significant negative correlations with Neuroticism. The vast majority of leadership competencies were negatively correlated with Neuroticism, as predicted. Significant correlations ranged from -.21 to -.46, with the majority between -.20 and -.35 and a mean of -.31. The prediction was based on prior research using Big Five and Eysenck measures which found that numerous components of leadership effectiveness were negatively affected by high levels of neuroticism, including reduced leader task effectiveness (Tee & Ashkanasy, 2007) and reduced follower task effectiveness (Johnson, 2008).

Hypothesis 2: The Social Nature of Significantly Related Competencies

The second hypothesis was that those leadership competencies which are social in nature, belonging to the categories Communicating and Presenting, and Relating and Supporting, would have the strongest significant negative correlations with Neuroticism.

Of the four most highly negatively correlated competencies, Learning and Developing Continuously, Adapting and Coping with Pressure, Managing Feelings and Emotions, and Identifying and Resolving Conflict, half were social in nature (the latter two). Because of these relationships and the fact that such a large proportion of the tested competencies had significant negative relationships with Neuroticism (27 of 30, or 90%), one can conclude that neuroticism does not, therefore, mostly relate to the social aspects of leadership, but rather, can relate to all types of leadership skills.

Another interesting finding was that the strongest predictors of Neuroticism were Learning and Developing Continuously, and Adapting and Coping with Pressure, which are both intrapersonal capacities. Organizational leaders who are poor at both learning from new information and experiences, and coping with the high work demands of a top executive position are likely to score highly in Neuroticism.

Multiple regression analyses do not supply causative explanations, so the exact nature of the relationships between predictor and predicted variables in this study is unknown to date. The selected leadership competencies were entered as predictor variables in the multiple regression analysis to determine how they predicted Neuroticism for merely practical reasons due to the types of variables and relationships being examined. However, one may infer with a degree of certainty that poor leadership performance does not cause neuroticism, based on the construct's definition. Neuroticism is a stable personality trait that is thought to be present from birth and biological in origin, before any leadership activities are engaged in (Eysenck & Jürgen, 1975). Conversely, the presence of neuroticism could possibly interfere with the development of

these two competencies among those thirty which were tested for (though, again, causal relationships could not be established with this study's design and further research is needed).

Hypothesis 3: Unstable Mood, Anxiety, and Eleven Leadership Competencies

The third hypothesis was that Unstable Mood and Anxiety, as measured by the relevant EPQ items, would have significant negative correlations with 11 specific leadership competencies. The single item-based variable Unstable Mood and the subscale variable Anxiety both had significant negative relationships with multiple leadership competencies.

Unstable Mood. Despite the fact that Unstable Mood was measured using a single EPQ item lacking validity statistics of its own, its significant negative correlations with three leadership competencies, Coaching and Developing People, Adapting and Coping with Pressure, and Managing Feelings and Emotions, are worth further investigation. These results suggest that individuals whose mood frequently vacillates between happy and sad are relatively poor at dealing with emotionally difficult situations for both themselves and others at work and could have difficulty helping others to develop in a coaching capacity.

Anxiety. The subscale variable Anxiety had statistically significant negative correlations with the following eight leadership competencies:

- Adapting and Coping With Pressure;
- Coaching and Developing People;
- Identifying and Resolving Conflict;
- Managing Feelings and Emotions;
- Managing Plans and Projects;
- Attracting and Managing Talent;
- Motivating and Inspiring to Excel; and
- Facilitating and Improving Communication.

This list of competencies contains a mixture of intrapersonal, interpersonal, transactional leadership, and transformational leadership skills. As predicted, those with higher anxiety scores don't perform as well when it comes to some socially-based leader competencies, general work tasks, dealing with pressures, managing others' emotions, and handling tense situations like conflicts. Anxiety can be disabling, especially when excessive; those suffering from frequent bouts likely have low emotional intelligence based on their poor emotion management, which, as established by Goleman's (1997) research, has detrimental effects on various areas of leadership performance.

Hypothesis 4: Low Self-Esteem and Seven Leadership Competencies

The fourth hypothesis was that the EPQ subscale variable Low Self-Esteem would have significant negative relationships with seven specific leadership competencies. Low Self-Esteem was negatively correlated with five of the seven expected competencies:

- Self-Deception;
- Developing Strategy and Acting Strategically;
- Managing Plans and Projects;
- Showing Courage and Strength; and
- Executing Strategies and Plans.

As predicted, leadership competencies related to strategy, planning, courage, and honesty with one's self were negatively related to Low Self-Esteem. Predictions regarding strategy, planning, and honesty with one's self were based on research by Judge et al. (2009) showing that leaders adept at self-evaluating have high self-esteem and are able to effectively strategize, engage in large-scale initiatives, and persevere in their efforts toward these initiatives. Predictions regarding courage, drive, confidence while speaking to groups, and honesty with one's self were based on intuitive thinking about how feeling positively about one's self may contribute to leaders' comfort and effectiveness at public speaking, ability to accomplish challenging achievements, and willingness to face one's weaknesses realistically and without reluctance due to fear of emotional pain.

Chapter Summary

Chapter 4 presented the findings without interpretation, followed by discussions of potential design issues and ways that the findings corresponded to knowledge presented in the literature review (Chapter 2). The next chapter will summarize the study, present conclusions associated with each hypothesis, and provide recommendations for practice and future research. The descriptive statistics are summarized below:

- There were 112 female participants;
- The mean age was 50.41 ($SD = 10.66$, min = 23, max = 81, $N = 86$), and the majority of women were in their 40s and 50s (24% and 36%, respectively);
- Ethnicity statistics: 75.2% were White ($n = 79$), 15.2% were Black ($n = 16$), 2.9% were Hispanic ($n = 3$), 2.9% were Other ($n = 3$), 2.7% were Mixed ($n = 3$), .9% were Asian ($n = 1$), and 6.3% did not provide ethnicity data ($n = 7$). The order of percentages matched national data from 2011, though the exact percentages were not equal (Cornelius, Moyers, & Bell, 2011); and
- The sample's age and ethnicity proportions closely matched those of the top executive population in the United States.

The inferential statistics are summarized below:

- Twenty-seven of thirty MLQ30 leadership competencies had statistically significant negative correlations with Neuroticism (EPQ). The null hypothesis for the first hypothesis was rejected.
- Two of the four leadership competencies with the strongest relationships to Neuroticism were social in nature, belonging to the MLQ30 categories of Communicating and Presenting and Relating and Supporting, providing partial support for the second hypothesis.
- The results of a multiple regression analysis revealed that the model with the best ability to predict Neuroticism included the two competencies Learning and Developing Continuously and Adapting and Coping with Pressure. Both are intrapersonal capacities belonging to the transformational leadership style. These competencies are not social in nature; therefore, the null hypothesis for the second hypothesis could not be rejected.
- Unstable Mood (EPQ item 1) had statistically significant negative correlations with three of the eleven expected competencies: Coaching and Developing People, Adapting and Coping with Pressure, and Managing Feelings and Emotions.
- Anxiety (EPQ items 24, 27, and 46) had statistically significant negative correlations with eight of the eleven expected competencies: Coaching and Developing People, Adapting and Coping with Pressure, Managing Feelings and Emotions, Motivating People and Inspiring Them to Excel, Facilitating and Improving Communication, Managing Plans and Projects, Attracting and

Managing Talent, and Identifying and Resolving Conflict. The null hypothesis for the third hypothesis was rejected.

- Low Self-Esteem (EPQ items 12, 19, 44, and 50) had statistically significant negative correlations with five of the seven expected competencies: Self-Deception, Developing Strategy and Acting Strategically, Executing Strategies and Plans, Showing Courage and Strength, and Managing Plans and Projects. The null hypothesis for the fourth hypothesis was rejected.

The design analysis resulted in the following points:

- The sample size was large enough to detect significant relationships that can inform future research.
- The results pertaining to Hypothesis 3 regarding the variable Unstable Mood should be interpreted with caution due to this variable being measured using only a single item, which has not been statistically validated (EPQ-RS item one). However, the item's high face validity and prior research by Sagrestano (2002) showing that single-item measures of mood variables may produce valid findings suggest that the correlations found may be meaningful. Further research is needed to establish validity and reliability statistics for the item used.
- The results pertaining to hypotheses three and four should be interpreted with caution because the EPQ-RS-derived subscale variables Anxiety and Low Self-Esteem had limited reliability (internal consistency). However, the factor analysis results indicated that the items composing these subscales shared a common factor, supporting the usefulness of these measures.
- The possibilities that participants based their EPQ responses on recent short-term moods, rather than general functioning, and that women's moods fluctuate frequently due to hormonal shifts are not of concern, as the female norm for Neuroticism is 6.70 and the male norm is 4.66. Both of these numbers are higher than this sample's mean of 3.63 ($SD = 2.75$).
- The mean Lie score was 8.08 out of 16 possible points (compared to the female norm of 5.29, $SD = 3.18$). This score is not of concern, since the correlation between Neuroticism and Lie scale scores were not strongly enough correlated. The Impression Management score was 6.48 out of 10, and the Self-Deception score was 6.12 out of 10; these moderate scores may reflect reactivity, concerns about exposure to fellow NAPW members, and/or top executive culture or behavioral expectations.

Chapter 5: Summary, Conclusions, and Recommendations

Chapter Overview

The final chapter reflects on the process of carrying out this study by focusing on three general themes: what the researcher intended to achieve, what was achieved, and what the results mean for readers who want to apply them in the realm of organizational leadership or for researchers who want to extend or replicate them. It provides a summary of the major points from each chapter, conclusions that address the hypotheses, and recommendations for future research and practice.

Summary

Chapter 1 provided a comprehensive introduction to the study. It presented the problem statement, major research findings discussed in the literature review, the rationale for the study, the research hypotheses and anticipated results, a brief overview of the methodology, and the study's implications. The problem statement introduced the problem of neuroticism in the area of organizational leadership and briefly explained how gaining a more in-depth understanding of the relationships between neuroticism and various aspects of leadership (key thinking styles, skills, and orientations) would be valuable to leaders, organizations, those in hiring positions, trainers, coaches, and mental health professionals as they aim to optimize leadership performance.

The rationale for the study can be summarized as the need for additional knowledge on how specific leadership competencies (behaviors, leading styles, policy and system management, and other skills) may be affected by neuroticism, considering that only a select few areas have been studied to date and that the big-five model of personality has limited generalizability (Hiller & Hambrick, 2005; Judge et al., 2009; Popkins, 1998; Tee & Ashkanasy, 2007). Leadership is a multifaceted phenomenon whose components can be analyzed and manipulated to maximize leader performance. Neuroticism is a relevant component due to the universal nature of negative emotions and their impacts on intrapersonal and social functioning. Transactional and transformational leadership are leading styles with much research support, and they provided the framework upon which this study's analyses were based. Understanding how neuroticism, a stable personality trait, relates to leadership performance may inform leader behavioral, hiring, coaching, and training decisions. This study provides introductory knowledge on whether and to what degree these variables are related to one another, though it does not provide directional data or causal explanations.

Based on the research hypotheses, the anticipated results were that: 1) the scores of most of the leadership competencies will decrease as Neuroticism increases; 2) most of those competencies found to have the strongest relationships with Neuroticism in the first analysis and those which have the strongest ability to predict neuroticism will be social in nature, thus belonging to the overarching leadership competency categories of Communicating and Presenting, and Relating and Supporting; 3) the scores of several of those eleven competencies related to task and socially-based leadership performance and

emotion management will decrease as Unstable Mood and Anxiety increase; and 4) the scores of several of those seven leadership competencies related to strategy, planning, courage, initiative, honesty, and speaking confidently will increase as Low Self-Esteem decreases.

The general implications of this study were discussed in Chapter 1. Emotional maturity entails emotion management, and effective leaders are emotionally mature (Hackman, 2010). Based on the current study's findings, neurotic leaders would benefit from recognizing whether neuroticism and its components, including unstable mood, anxiety, and low self-esteem, are relevant to their job position, based on the competencies demanded of them. Working on developing more effective coping skills and self-awareness would also be advantageous for these leaders, so that greater emotional maturity can be achieved. (Because the relationships found were correlational in nature, the second suggestion is based on speculation regarding causation and prior research findings.)

Based on the extant research, the benefits of reducing the impacts of neuroticism in leaders include improvements in follower outcomes, such as organizational citizenship behaviors, commitment, performance, satisfaction, optimism, motivation, learning, engagement, and collaboration. Reducing a leader's neuroticism could also be valuable in terms of organizational effectiveness, affecting such dimensions as efficiency, innovation, turnover, stability, profit margin, and growth (Bass et al., 2003; Tims et al., 2011). In addition to the leaders themselves, those in hiring, training, and coaching positions may use this knowledge to make more informed decisions as they work with

leaders. Researchers may wish to expand on the results of this study by focusing on related personality constructs and more specific types of leaders, organizations, and industries and by establishing causative relationships using experimental study designs.

Chapter 2 presented a thorough literature review, including seminal literature and research findings on the following concepts:

- 1) the five-factor model of personality (neuroticism, conscientiousness, agreeableness, extroversion, and openness to experience; McCrae & John, 1992);
- 2) the origins of personality (genetics, gender, and culture; Digman, 1990; Matthews et al., 2009);
- 3) neuroticism's role in behavior, as related to biology, environment, and cognition (inborn temperament, negative thinking styles, and dysfunctional emotional coping are the most strongly supported explanations of the relationship between neuroticism and behavior; Matthews et al., 2009; Shoji et al., 2010; and low emotional intelligence tends to be found in the presence of neuroticism; Goleman, 1997);
- 4) gender differences and neuroticism (women have consistently been found to be more neurotic and agreeable than men at all ages; Chapman et al., 2007);
- 5) leader emergence and trait theory (the Big Five traits alone cannot predict leader emergence, but leader developmental level can predict both emergence and performance; Popper & Amit, 2009; Strang & Kuhnert, 2009);
- 6) transactional and transformational leadership styles and their effectiveness (controlling or managing and inspirational or developmental leadership, respectively: the interaction between leader traits and behaviors accounts for nearly one third of the variance in leader effectiveness based on these constructs; Burns, 1978; DeRue et al., 2011);
- 7) meta-analytic research on the significant correlations between the five-factor model and leadership (based on 222 correlations from 74 samples, leadership was correlated .48, extraversion was correlated the most strongly, and neuroticism was correlated -.24; Judge et al., 2002);
- 8) contagion of negative moods (neurotic leaders are affected by followers' negative moods, leading to poor task performance and slower decision-making; Tee & Ashkanasy, 2007; and followers are affected by leaders' negative emotionality,

- leading to anxiety, low job satisfaction, and poor organizational commitment; Shaubroeck et al., 2007);
- 9) problem-solving and neuroticism (neurotic individuals view problems as threats to their well-being, tend to be pessimistic about the possibility of solving them, and become easily frustrated, leading to poorer problem-solving ability; D'Zurilla et al., 2011);
 - 10) poor self-evaluation ability, of which neuroticism is part (the combination of neuroticism, low self-efficacy, external locus of control, and low self-esteem makes up poor self-evaluation ability, which is associated with slower and more difficult strategic decision-making, fewer large-stake initiative pursuance, and less endurance in following through; Hiller & Hambrick, 2005);
 - 11) mediating variables, such as happiness, tension, energy, dynamism of the work environment, leader-environment match, available power and energy for self-regulation, job demands, and job autonomy (De Hoogh et al., 2005; DeWall et al., 2011; Matthews et al., 2009; Ng et al., 2008; Ploubidis & Frangou, 2011); and
 - 12) contradictory evidence (neurotic people tend to be conscientious, which benefits task performance; Beckmann et al., 2010; and neurotic people seek out more feedback from coworkers, which may benefit democratic leading styles; Krasman, 2010).

Chapter 3 provided a complete overview of the methodology used in this study as well as restatements of the problem statement and hypotheses (with rationales). This study used a correlational design, and two online self-report instruments were administered at one time to compare responses regarding neuroticism and leadership competencies. The two instruments were the EPQ-RS (57 items) and the MLQ30 (192 items). One hundred and twelve participants were gathered using the National Association of Professional Women's (NAPW) online directory to send e-mail invitations, and only top executives (CEOs, presidents, directors, and other C-level executives) with high job autonomy were invited. All responses and identities were kept

confidential, and the data was password protected to minimize ethical risks. Participants were required to electronically agree to the terms a waiver of consent form before participating. The data was analyzed using the software program SPSS, and the major statistical analyses used were Pearson product-moment correlation and multiple regression analysis.

Chapter 4 presented the results of this study in terms of descriptive and inferential statistics, critiqued the study's design, and discussed the results' implications. The 112 female participants were 50.41 in average age, and the age and ethnicity breakdowns were similar in proportion to the national data on top executives from 2011 (Cornelius, Moyers, & Bell, 2011). The following inferential statistics were found as a result of hypothesis-testing:

- The null hypothesis for the first hypothesis was rejected, as 27 of the 30 leadership competencies had statistically significant negative correlations with Neuroticism;
- The null hypothesis for the second hypothesis was not rejected, as the data only partially supported this hypothesis: two of the four leadership competencies most strongly related to neuroticism (Learning and Developing Continuously, Adapting and Coping with Pressure, Managing Feelings and Emotions, and Identifying and Resolving Conflict) were social in nature (the latter two), and the two competencies that, together, best predicted neuroticism scores were not social in nature (the intrapersonal competencies called Learning and Developing Continuously, and Adapting and Coping with Pressure);
- The null hypothesis for the third hypothesis was rejected, as the Neuroticism component variable Unstable Mood and the Neuroticism subscale Anxiety both had statistically significant negative correlations with several of the eleven expected competencies (three and eight, respectively); and
- The null hypothesis for the fourth hypothesis was rejected as the Neuroticism subscale Low Self-Esteem had statistically significant negative correlations with five of the seven expected competencies.

Issues that arose regarding the design analysis of the current study include: 1) the results' generalizability may be limited by the recruitment of only participants with the time and willingness to participate in research studies, who are Internet savvy, and who have membership in an all-female professional association; 2) the results pertaining to the Neuroticism variable Unstable Mood should be interpreted with caution due to this variable being a single-item measure lacking validity information, though single-item measures of mood have been shown in prior research to be useful and valid (Sagrestano, 2002); 3) the results pertaining to the Neuroticism subscales Anxiety and Low Self-Esteem should be interpreted with caution due to their limited internal consistency; 4) the sample size was large enough to detect significant relationships; 5) distortion of Neuroticism scores based on short-term moods was not of concern based on comparisons to male and female EPQ score norms; and 6) self-enhancing exaggerating was not of concern based on the EPQ authors' guidelines for analyzing the Lie scores, though the moderate mean MLQ30 Impression Management and Self-Deception scores revealed possible tendencies toward presenting a favorable profile and poor insight regarding one's own strengths or weaknesses.

Conclusions

Hypothesis 1: Neuroticism and Thirty Leadership Competencies

The first hypothesis was supported by this study's results, as 27 of 30 leadership competencies had statistically significant negative relationships with Neuroticism. The mean correlation was -.31; this study's findings reveal a somewhat higher relationship

between Neuroticism and general leadership behavior than that found via the meta-analysis of 74 samples by Judge et al. (2002), who found a correlation of -.24. The practical implication is that organizational leaders and employers would benefit from considering emotionally negative personality traits (frequent or ongoing anxiety, low self-esteem, anger, guilt, embarrassment, and sadness, among others) as relevant factors while they strive to improve their leadership skills or make new hires, respectively. Additionally, leadership trainers, executive coaches, business or organizational leadership educators, and mental health professionals may find taking into account leaders' neuroticism status to be useful while designing and customizing training programs, interventions, challenges, suggestions, and curricula. These results support arguments in favor of developing leaders' emotional coping skills, self-management, self-regulation, and emotional maturity for the sakes of their organizations and followers (DeWall et al., 2011; Goleman, 1997; Shoji et al., 2010; Strang & Kuhnert, 2009; Wang et al., 2009).

Hypothesis 2: The Social Nature of Significantly Related Competencies

The second hypothesis received only partial support, as half of the four leadership competencies that were most strongly correlated with Neuroticism were social in nature rather than all or most of them. In addition, the two competencies that made up the best predictor model for Neuroticism were not social in nature, but rather, intrapersonal. The wide variety of significantly correlated competencies is notable.

The literature review revealed that much research connects leadership ability to social variables, some of it connecting neuroticism to socially relevant aspects of

leadership. For example, neurotic leaders affected by followers' negative mood display poor task performance and slower decision-making (Tee & Ashkanasy, 2007), and followers affected by leaders' negative mood experience anxiety, low job satisfaction, and poor organizational commitment (Shaubroeck et al., 2007). Some social skill variables, including emotional intelligence, were found to directly relate to non-social leadership competencies, like emotional intelligence (Goleman, 1997). (Interestingly, one of the most strongly correlated competencies, Managing Feelings and Emotions, is conceptually similar to emotional intelligence, since this competency is defined as "Know which emotions you are feeling and why, handle other people's feelings and emotions sensitively" [Beazer & Cameron, 2011, p. 7; Goleman, 1997]. That neuroticism and emotional intelligence are related is not surprising, since both constructs are concerned with emotional functioning.) Fewer studies revealed relationships between neuroticism and purely non-social leadership competencies – for example, core self-evaluations (Judge et al., 2009) and problem-solving (D'Zurilla et al., 2011). There is a possibility that the effects of the performance in the socially-based leadership competencies were powerful enough to manifest similar performance in the non-social competencies, explaining the equal proportions of competencies correlated with neuroticism.

That Neuroticism and Intrapersonal Competencies are strongly related (the two most strongly correlated competencies in this study, which also made up the best fitting predictive model, belong to the MLQ30 category Developing and Changing) makes sense if the persistent negative emotions of neuroticism make self-management challenging.

Poor self-management may be a mediating variable in the relationship between neuroticism and poor leadership performance. Both neuroticism and poor self-management have been shown by numerous studies to be significantly negatively related to leadership capacity. For example, leadership research demonstrates links between poor leadership performance and low emotional intelligence (Goleman, 1997), low emotional maturity (Hackman, 2010), poor core self-evaluations ability (composed of low neuroticism, high self-efficacy, internal locus of control, and high self-esteem; Judge et al., 2009), and pessimistic outlook in problem-solving (D'Zurilla et al., 2011). Future research efforts may examine the interrelationships among these variables for a clearer understanding of the emotional influences on leadership competencies.

Knowing which competencies compose the best fitting predictive model for Neuroticism is not only useful as a predictive tool but also as confirmation that they have the strongest relationships with Neuroticism (Learning and Developing Continuously and Adapting and Coping with Pressure); indeed, the two individually had the strongest statistically significant correlations with Neuroticism. A practical implication is that organizational leaders with neurotic personalities would benefit from placing special focus on developing their capacity to absorb and learn from new information and experiences and learning how to manage their stress in the face of intense work situations, since they likely perform poorly in these areas.

A more direct implication of the multiple regression results is that employers, human resources personnel, superiors, or colleagues could consider an executive's or candidate's ability to continually learn and develop and to manage stress and pressure as

potential indicators of neuroticism status. (Together, these competencies are only able to predict neuroticism scores up to 25%. If there are substantial suspicions about a candidate, more formal testing and/or observation could be implemented.) Knowledge of neuroticism status may be useful because neuroticism is associated with numerous other personal and performance behaviors, as discovered in this study's correlational analysis and prior research findings. Some top executive positions may call for specific competencies, which could be compromised by a high degree of neuroticism. Better informed hiring decisions could save an organization from costly turnover and undesirable organizational outcomes because quality of decision-making, task completion, relationships, inspiration of employees, and organization members' emotional states (which, in turn, affect their job performance) are at stake (Goleman, 1997; Hiller & Hambrick, 2005; Judge et al., 2009; Shaubroeck, Walumbwa, Ganster, & Kepes, 2007; Tee & Ashkanasy, 2007).

Of note is the fact that both predictor competencies, Learning and Developing Continuously, and Adapting and Coping with Pressure, belong to the transformational leadership category in the MLQ30 (Beazer & Cameron, 2011). Transformational leadership involves inspiring followers with an appealing vision and working to develop them as future leaders, whereas transactional leadership involves controlling employees with punishments and rewards (Burns, 1978). The competencies most strongly inversely related to Neuroticism are concerned with humanistic elements rather than controlling elements. The ability to control and manage employees may be less affected by negative emotionality or emotional instability than the ability to inspire and develop them;

however, this explanation is speculative, as causation has not been established. There is a possibility that neurotic individuals possess other traits that interfere with transformational leadership capacities. The general implication is that neurotic individuals may be relatively more effective in positions calling for a transactional leadership style than a transformational leadership style, though Neuroticism is negatively related to all types of leadership competencies to some degree.

Hypothesis 3: Unstable Mood, Anxiety, and Eleven Leadership Competencies

The third hypothesis was supported, as there were statistically significant negative correlations between Unstable Mood and multiple leadership competencies (three) and between Anxiety and several leadership competencies (eight). There were statistically significant negative correlations between Unstable Mood scores and three of the eleven expected competencies: Coaching and Developing People, Adapting and Coping with Pressure, and Managing Feelings and Emotions (EdITS, 2001). The practical implication is that individuals with unstable mood patterns might not be suited to occupy top executive positions that entail coaching activities and require a high level of emotional intelligence (the ability to identify emotions in oneself and others, manage one's own or others' emotions, and develop effective interpersonal skills; Goleman, 1997). Every leadership position is ideally occupied by someone with high emotional intelligence, as Goleman's (1997) research revealed, but some jobs involve more emotional content than others, depending on the industry, organizational culture, individual personality characteristics of organization members, recent events, or other factors. More research is

needed to determine the meaningfulness of these results before this implication can be taken seriously; however, the strong face validity of the single item used to measure Unstable Mood and Sagrestano's (2002) finding that mood states can be effectively evaluated using single-item measures is encouraging.

The finding for the second part of the third hypothesis was that there were statistically significant negative correlations between Anxiety subscale scores and eight out of the eleven expected leadership competencies, including those concerning socially-based leader competencies, general work tasks, dealing with pressures, managing others' emotions, and handling tense situations like conflicts. Although anxiety is a component of neuroticism, which Eysenck (Eysenck & Jürgen, 1975) thought to originate from permanent nervous system wiring, managing such emotional reactivity is possible to the extent that neuroticism (and its components) may no longer impact mood; for example, the reappraisal coping technique, which relies on altering the meaning of event interpretations, reduces its impact significantly (Wang et al., 2009). The practical implication of this study's findings on Anxiety is that top executives suffering from anxiety problems would likely benefit their organizations via varied aspects of their leadership by learning effective coping techniques. More research is needed to determine whether this relationship is causal, however. In addition, those in hiring positions may benefit from evaluating candidates' anxiety patterns to determine job fit given the position's pressure level or stressfulness.

Hypothesis 4: Low Self-Esteem and Seven Leadership Competencies

The fourth hypothesis was supported, as Low Self-Esteem had statistically significant negative correlations with five of the seven expected leadership competencies, including those related to strategy, planning, courage, and honesty with one's self. Top executives may use this information to approximate the importance of high self-esteem to their respective job positions, depending on the competencies most demanded of them; though, it is unknown from this study whether high self-esteem causes better performance in these areas, better performance in these areas causes higher self-esteem, or self-esteem predicts who will seek out and maintain positions requiring the significantly correlated competencies. In addition, such knowledge of these relationships may prompt individuals to privately improve self-esteem through psychotherapy and other less formal means, should the possibility of causation be a concern. At the very least, most leadership positions require the ability to strategize and plan, which could prove difficult for leaders who struggle with low self-esteem.

The leadership competencies that did not correlate significantly with Low Self-Esteem were Displaying Initiative and Drive, and Speaking with Confidence and Presenting to Groups. These results suggest that top executives with low self-esteem are neither less driven to succeed nor less effective at public speaking than those with high self-esteem. The practical implication is that individuals with low self-esteem need not shy away from top executive positions requiring these two competencies based solely on how they feel about themselves (nor should those in hiring positions consider personally insecure candidates to be unqualified for such positions). However, top executives with

Low Self-Esteem are less effective in positions that require regular strategizing, implementation of plans, and shows of courage and strength (military positions come to mind). Further research is needed to elucidate the reasons for the negative relationships between Low Self-Esteem and the five expected leadership competencies by revealing any causative relationships that may exist.

Further, top executives with low self-esteem are less insightful or less honest with themselves than those with high self-esteem, and their low self-awareness likely inhibits their ability to grow and develop their leadership abilities; the latter deficit is undesirable for organizations whose cultures or industries encourage or require growth (psychology-based, training-based, and any constantly shifting, innovative leadership contexts come to mind). Leaders with low self-esteem may be less willing to engage in honest self-examination due to potential threats to their self-confidence. Psychology research has demonstrated that for some individuals, awareness of their weaknesses leads to feelings of shame and in some cases, compensatory narcissism (Broucek, 1991). Such individuals are avoiding a useful process, because continually developing one's self-awareness through feedback and self-observation enables leaders to accept and work on their weaknesses and to capitalize on their strengths, which is a process aided by executive coaching (Frankovelia & Riddle, 2010).

As expected, the results of additional Pearson correlational analyses revealed a moderate statistically significant negative relationship between Low Self-Esteem and Learning and Developing Continuously, and a strong statistically significant positive relationship between Self-Deception and Learning and Developing Continuously (higher

Self-Deception scores mean greater insight on one's self, or less self-deception, meaning actual self-deception is negatively related to Learning and Developing Continuously). These results support the previously discussed connections among low self-esteem, low self-awareness, and inhibited leadership development. The practical implication is that top executives with low self-esteem may be better able to improve their leadership abilities by overcoming their self-esteem issues using psychotherapy and by increasing their awareness of their leadership strengths and weaknesses using executive coaching (Broucek, 1991; Frankovelia & Riddle, 2010). More research is needed to determine whether these relationships are causal and whether these activities would need to be engaged in sequentially for maximum effectiveness.

Recommendations

Recommendations for Future Research

This section offers recommendations for future research on the relationships between neuroticism and leadership competencies. The following list presents recommendations that stem directly from this study and suggests improvements on its design and methodology. The current study could benefit from:

1. More intensive investigations of individual leadership competencies' relationships with neuroticism and its components (For example, to investigate causality using experimental research designs and to identify any mediating variables using statistical techniques);
2. Research using multiple neuroticism and leadership competencies testing instruments so that score comparisons can be made;
3. Research using the same instruments as in this study but with two sample groups, each of which having the instruments administered in a different order to test for

reactivity (For example, the EPQ-RS first in one group and the MLQ30 first in the other);

4. Studies that test for a wider range of neuroticism components than those tested for by the EPQ-RS (untested individual components include depression, obsessiveness, guilt, submission, irrationality, psychosomatic disorders, shyness, anger, hostility, and impulsivity; Digman, 1990) to determine their relationships with leadership competencies;
5. Research that gathers data using 360-degree assessments, rather than relying exclusively on self-report measures to study the relationships between neuroticism (and its components) and leadership competencies;
6. Research using full-length, statistically validated measures of Unstable Mood to attempt replication of the relationships with leadership competencies that were found in this study;
7. Investigation of the concurrent validity of the single Unstable Mood item used in this study (EPQ-RS Item 1) to determine whether scores are comparable to those of full-length, statistically validated measures, and of the generalizability of Unstable Mood scores to top executives of all kinds (ages, job titles, industries, organization types, and so forth);
8. Investigations of the reliability and validity of the EPQ-RS subscales Anxiety and Low Self-Esteem (For example, determining generalizability among top executives of all kinds and concurrent validity);
9. Research on this study's variables using at least 100 participants from the same age group, industry, job title, organization type, and so forth to identify intergroup differences and studies on male top executives to identify differences from females;
10. Research that gathers participants from multiple sources and via multiple avenues, rather than through the website of a single professional association; and
11. Research that holds constant the tendencies toward presenting a favorable image to others and deceiving one's self about one's leadership strengths and weaknesses (a larger sample size would be necessary to allow for elimination of the disqualified).

The following list presents recommendations for research that would extend the findings of this study by adding knowledge on related subject matter. Further studies would benefit from employing:

1. Research using leadership frameworks other than transformation and transactional leadership to investigate whether neuroticism has universal relationships or effects on leadership;
2. Qualitative research that gathers data through interviews of executives on their experiences of how negative emotionality relates to their leadership performance in various areas;
3. Research investigating the relationships between social and non-social leadership competencies (i.e.: to determine whether performance in non-social competencies is influenced by that in social competencies);
4. Research investigating whether neuroticism is a greater problem for purely transformational or purely transactional leaders;
5. Research investigating whether effective self-regulation, or emotional coping, techniques mitigate the relationships (or effects) of neuroticism on leadership competencies as a mediating variable (Shoji et al., 2010); and
6. Research investigating whether conscientiousness and feedback-seeking are mediating variables in the relationships between neuroticism and leadership competencies and whether such relationships differ between men and women (Beckmann et al., 2010; Krasman, 2010).

Recommendations for Practice

Trait neuroticism should be considered a relevant factor by top executives interested in improving their leadership skills, based on the numerous correlations found for both social and non-social competencies. Several practical considerations that take into account neuroticism's relationships and potential impacts are offered. Most leaders who have frequently experienced negative emotions from a young age due to a neurotic

personality would benefit from working on their capacity to absorb and learn from new information and experiences and their ability to manage their stress in the face of intense work situations, based on the correlations found. Practicing openness to new knowledge and development opportunities is recommended; this state of mind requires acceptance of the need for ongoing constructive change and the value of feedback. (Improving self-esteem may be necessary to develop receptiveness to feedback so that emotional threats are minimized, and psychotherapy is recommended for this purpose among others related to the various negative emotions experienced regularly by neurotics.)

Neurotic top executives need to work on their ability to manage stress is indicated by both the negative relationship between Neuroticism and Adapting and Coping with Pressure, and the negative relationships between Anxiety and numerous leadership competencies. There are numerous research-supported methods for managing stress that they can choose from: maintaining a healthy work/life balance; engaging in stress-relieving physical activities like cardiovascular and strength-training exercises, deep breathing, yoga, and meditation; using nutritional approaches and herbal remedies; and working with a psychotherapist to identify triggers, develop effective coping techniques, and learn to maintain a healthy perspective (O'Brien, 2012; Shoji et al., 2010). Additionally, stress-management recommendations for the workplace offered by Hallowell (2005/2010) include avoiding work that presents too large a challenge at once, focusing on activities at which one is competent, and spending time with someone well-liked every four to six hours to boost executive functioning in the brain (planning,

decision-making, and prioritizing) via activation of the pleasure centers (remembering that isolation increases stress).

Some individuals may be concerned about their performance in possible future job positions. The following four points may be used as guides for neurotic individuals considering taking new positions as CEOs, presidents, directors, or other C-level executives:

- Neurotic individuals may be better suited for leadership positions calling for a transactional leadership style (managing and controlling) than for a transformational style (inspiring and developing), relatively-speaking (Burns, 1978).
- Top executives with mood instability may be ill-suited for positions that involve coaching or require high emotional intelligence.
- Top executives with low self-esteem are no less driven to succeed or less effective at public speaking than those with high self-esteem and, therefore, should feel free to strive for greater achievements and make speeches regularly without concern for their performance based on this factor alone.
- Top executives with low self-esteem may be ill-suited for positions requiring shows of strength and courage, heavy planning and strategizing, and self-awareness regarding leadership strengths and weaknesses.

Trait neuroticism should also be considered a relevant factor by employers making new hires or doing succession planning, as this personality characteristic is associated with poorer performance in numerous leadership areas. Should the position being considered require leadership competencies that are negatively related to Neuroticism (especially Learning and Developing Continuously, Adapting and Coping with Pressure, Managing Feelings and Emotions, and Identifying and Resolving Conflict), they may want to avoid candidates with clearly neurotic personalities, based on

observations during job interviews and consultations with references (additionally, formal testing could be implemented if not deemed overly invasive). The rationale for such avoidance is that, although causal relationships were not established by this study, there is reason to conclude that low performance in the leadership competencies does not cause neuroticism, considering neuroticism's biological etiology and lifelong manifestation. In addition, many of the research studies discussed in the literature review describe causal relationships between neuroticism and a few task- and socially-related leadership behaviors. Therefore, the reverse is more likely true if a causal relationship exists at all, and those looking to hire for a top executive position requiring leadership competencies found in this study to be negatively correlated with Neuroticism may feel more assured in their decision-making by avoiding the risks of hiring a neurotic candidate.

Employers, human resources personnel, superiors, or colleagues interested in approximating an executive's neuroticism status may simultaneously consider his or her capacity to absorb and learn from new information and experiences and his or her ability to manage stress in the face of intense work situations as joint indicators of neuroticism status by up to 25%. Tests using validated instruments and/or established observation techniques would be necessary for more conclusive information. However, employers concerned about neurotic candidates should keep abreast of emerging research on the subject in case of findings determining whether neuroticism actually causes poor performance in the specific competencies rather than being associated for other reasons. (For example, neurotic individuals may choose work experiences that do not provide much practice in those areas identified in this study as negatively associated with the

trait.) The same recommendations could be warranted for the components of neuroticism, though the researcher cautions against taking this study's results on Unstable Mood, Anxiety, and Low Self-Esteem, as facts due to the limitations of the variable measures.

Finally, trait neuroticism should also be considered a relevant factor by trainers, coaches, and educators designing and customizing programs, interventions, and curricula intended to enhance leadership performance. They should take into account the potential obstacles that neuroticism poses to a leader's development and aid in the honing of new skills and habits to circumvent these obstacles; examples of this include: efforts toward increasing self-awareness, personal growth, coping capacity, emotion management, awareness of the social impacts of leader behavior, openness to new information received via both impersonal sources and personal feedback, and willingness to take on learning and development opportunities.

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Appendix A

Definitions of the Leadership Competencies, According to the MLQ30 Authors

Leadership/Transformational Competencies		Competency Requirements
1	Strategic and Creative Thinking	
1.1	Thinking and Managing Globally	Keep up to date with global trends, review the company's position, develop business relationships in other countries.
1.2	Developing Strategy and Acting Strategically	See the big picture, pick up changes in the marketplace, review and analyze the business unit's strategy.
1.3	Managing Knowledge and Information	Keep up with advances in business area, benchmark performance against industry leaders, seek advice from experts.
1.4	Creating and Innovating	Help people to think differently about a problem, get buy-in for creative ideas, turn novel ideas into reality.
1.5	Managing Costs and Financial Performance	Read and interpret financial reports, set financial targets, review and improve financial performance.
2	Leading and Deciding	Competency Requirements
2.1	Attracting and Managing Talent	Help new employees get up to speed quickly, give people challenging job assignments, monitor people's performance.
2.2	Motivating People and Inspiring Them to Excel	Communicate high expectations of people, trust capable people to do their work, celebrate team achievement.
2.3	Coaching and Developing People	Provide people with assignments to develop their skills, give timely coaching, act as a role model for development.
2.4	Managing Culture and Diversity	Define acceptable workplace behavior, challenge bias and intolerance, act as a role model of inclusive behavior.
2.5	Making Sound Decisions	Assess options and risks, consult people and take their views and ideas into account, act decisively.

3	Developing and Changing	Competency Requirements
3.1	Displaying Initiative and Drive	Start tasks right away, get things done quickly, be ready to go the extra mile.
3.2	Showing Courage and Strength	Do what is right despite personal risk, say no when necessary, have the courage to take tough decisions.
3.3	Learning and Developing Continuously	Seek feedback, set personal development goals, show a sense of humor and perspective.
3.4	Managing and Implementing Change	Sell the benefits of change, model the change expected of others, establish roles and structures to support change.
3.5	Adapting and Coping with Pressure	Adapt quickly to new situations, handle stress successfully, keep composure in difficult circumstances.

Management/Transactional focus		
4	Implementing and Improving	Competency Requirements
4.1	Executing Strategies and Plans	Provide direction and support, delegate responsibility to the appropriate people, hold people accountable for delivery.
4.2	Improving Processes and Systems	Allocate responsibility for improvement, learn lessons from process breakdowns, improve business processes.
4.3	Managing Customer Relationships and Services	Set high standards for customer service, exceed customer expectations, resolve customer issues quickly.
4.4	Analyzing Issues and Problems	Gather information from a wide variety of sources, approach problems from different angles, brainstorm possible solutions with others.
4.5	Managing Plans and Projects	Develop bold plans, obtain resources to carry out projects, manage critical dependencies and risks.
5	Communicating and Presenting	Competency Requirements
5.1	Facilitating and Improving Communication	Create a climate where people share views and ideas, exchange information with the team, bosses and stakeholders.
5.2	Influencing and Persuading People	Promote views and ideas, influence people by addressing their needs and priorities,

			negotiate effectively. Know which emotions you are feeling and why, handle other people's feelings and emotions sensitively.
5.3		Managing Feelings and Emotions	Demonstrate presence, communicate with self-assurance, give effective presentations to groups.
5.4		Speaking with Confidence and Presenting to Groups	Produce clearly written reports, write effectively for different audiences, edit other people's written work skillfully.
5.5		Writing and Reporting	
6	6.1	Relating and Supporting Relating and Networking	Competency Requirements Work effectively with other people, build rapport and keep others in the loop, use networks to get things done.
6.2		Listening and Showing Understanding	Put people at ease, pay attention to their feelings and emotions, listen without interrupting.
6.3		Building Trust and Modeling Integrity	Act in accordance with values and principles, give consistent messages, keep promises.
6.4		Identifying and Resolving Conflict	Encourage debate, bring disagreements into the open, address and resolve conflict early.
6.5		Cultivating Teamwork and Collaboration	Set the team's direction and priorities, review the team's successes and failures, help team members work well together.

Source: Beazer, J. & Cameron, A. (2011). Management style and leadership test: Management and Leadership Questionnaire [MLQ30] (technical specification and linked validity information document). *EQ-test.com*, 6-7. Retrieved from http://www.eq-test.com/mlq_testpage.html?gclid=CKuFwp-m6aYCFSDtgwodihp01w

Appendix B

Initial Recruitment E-mail

Subject: [NAPW} Dissertation Research Participants Request

Hi. My name is Laura McMillian, and I'm a doctoral candidate at The Chicago School of Professional Psychology. I found you in the member directory of the National Association of Professional Women (NAPW) and am making contact because you might fit the criteria for participating in my doctoral study on the relationships between negative emotions and leadership competencies.

This is not a commercial advertisement as it pertains to my earning the PhD degree in Organizational Leadership. Participating entails the completion of two online questionnaires that will take a total of about 30-35 minutes, after which you will have the option of receiving instant online results on your various leadership competencies. In addition, you may request a copy of the final research report. Your participation will be completely anonymous, and all responses will be kept confidential.

You qualify only if you have:

High job autonomy: You have a high degree of power to decide what and how tasks are completed as well as how to handle exceptions.

To begin, follow the link below:

<http://edu.surveygizmo.com/s3/973439/Negative-Emotions-and-Leadership-Competencies>

You will receive two subsequent reminder e-mails spaced one week apart. You may opt out at any time without consequence by replying to this e-mail. If you have any questions, feel free to reply with them or call me at (818) 613-2645.

Thank you for your time.

Sincerely,

Laura McMillian, MA
Doctoral Candidate
The Chicago School of Professional Psychology

Appendix C



Waiver of Consent Form

Title: Negative Emotions and Leadership Competencies

Investigators: The name of the student conducting this research is Laura McMillian, MA. The faculty member supervising the research is Darcy Tannehill, EdD.

You are being asked to participate in a research study conducted by a doctoral candidate. Please take your time to read the information below and feel free to ask any questions before agreeing to this document.

Purpose: The purpose of this study is to gain a better understanding of the ways negative emotions relate to the performance of top organizational leaders in terms of various leadership and management competencies. Regularly occurring negative emotions are known to impact leaders' task and social performance undesirably, and more information is needed to clarify the specific areas impacted as well as the specific types of emotions that may be influential. The goal of the present study is to discover these links so that more detailed knowledge may become available to executives, managers, trainers, consultants, researchers, and other professionals. Solutions may later be designed to reduce the undesirable effects of negative emotions on organizational leaders.

Procedures: If you choose to participate in this study, you will be asked to fill out two questionnaires, which ask about your emotional, leadership, and management tendencies. Participating will take about 30-35 minutes of your time. Both questionnaires are accessible on secure web sites, using the link provided in the e-mail you received. These sites will not share your responses with anyone but the researcher. When you have completed the questionnaires, you may optionally send an e-mail to mcmillian_laura@yahoo.com to request a copy of the final report by providing your e-mail or mailing address. This way, your identity will not be linked to your responses.

Risks to Participation: The risk of this study is that you may briefly be reminded of unpleasant negative emotions that you regularly experience, and you may be faced with the need to consider your performance as a leader, which may be disturbing or upsetting to some. If you feel that you may need professional mental health support, you can find a private practice psychotherapist or low cost mental health provider in your area or available via phone or Internet chat by accessing the following directories: <http://www.psychologytoday.com>, <http://www.find-a-therapist.com>, <http://www.networktherapy.com>, <http://www.liveperson.com/experts>, and any form of the Yellow Pages. You may also be at risk of coworkers or subordinates seeing your responses or

questionnaire feedback on your computer, should it be left visible by you. At any time, you may quit the study without penalty or consequence.

Benefits to Participants: You may not directly benefit from participating in this study. You will have instant access to your results on the leadership and management competencies questionnaire upon completion, which may prove informative in terms of understanding your strengths and challenges as an organizational leader. You may request a copy of the final research report. The researcher hopes to help other people like you to perform at their best in the future.

Alternatives to Participation: If you choose to participate in this research, there is no alternative procedure other than that described. However, you do not have to participate in the research and may choose to withdraw at any time without consequence. You will not lose any benefits to which you are otherwise entitled, nor will you be penalized.

Confidentiality: You have a right to privacy, and all information identifying you will remain anonymous and confidential. Your answers on all questionnaires will be kept private using password protection, and only the primary researcher will have access to the data and participant names. No identifying information will appear on any material. Any information obtained in connection with this research that can be identified with you will remain confidential and will not be disclosed without your permission or as required by law. The results of this study may be published in scientific journals or be presented at academic meetings as long as you are not identified and cannot reasonably be identified with it. Research materials and data will be kept for a minimum of five years after publication per APA guidelines, after which they will be deleted.

Questions/Concerns: You may contact Laura McMillian for more information at (818) 613-2645 or mcmillian_laura@yahoo.com at any time. If you have questions concerning your rights in this research study, you may contact the Institutional Review Board (IRB), which is concerned with the protection of participants in research projects. You may reach the IRB office Monday-Friday by calling (312) 467-2343 or by writing: Institutional Review Board, The Chicago School of Professional Psychology, 325 N. Wells, Chicago, Illinois, 60654.

Waiver of Consent

Subject

Checking the box below indicates that I have read the above information and have had a chance to ask questions to help me understand what my participation will entail. I agree to participate in the study until I decide otherwise. I acknowledge having received this agreement in text form, which I may copy and save for my records. I have been told that, by agreeing to this form, I am not giving up any of my legal rights.

I agree.

Yes

No

Waiver of Consent Form version date: July 24, 2012. Two pages.

Appendix D

First Follow-Up E-mail

Subject: Reminder: [NAPW] Dissertation Research Participants Request

Dear potential participant,

One week ago, you were asked to participate in a research study by a fellow NAPW member on the relationships between negative emotions and leadership competencies. If you have already completed the questionnaires, thank you very much and please disregard this message.

This dissertation study is being conducted by Laura McMillian, MA for completion of the PhD degree in Organizational Leadership at The Chicago School of Professional Psychology. Participating entails the completion of two online questionnaires that will take a total of about 30-35 minutes, after which you will have the option of receiving instant online results on your various leadership competencies. You may also request a copy of the final report. Your participation will be completely anonymous, and all responses will be kept confidential.

You qualify only if you have:

High job autonomy: You have a high degree of power to decide what and how tasks are completed as well as how to handle exceptions.

To begin, follow the link below:

<http://edu.surveygizmo.com/s3/973439/Negative-Emotions-and-Leadership-Competencies>

You will receive one final reminder e-mail in one week. You may opt out at any time without consequence by replying to this e-mail. If you have any questions, feel free to reply with them or call (818) 613-2645.

Thank you for your timely participation.

Sincerely,

Laura McMillian, MA
Doctoral Candidate
The Chicago School of Professional Psychology

Appendix E

Second Follow-Up E-mail

Subject: Final Reminder: [NAPW] Dissertation Research Participants Request

Dear potential participant,

Two weeks ago, you were asked to participate in a research study by a fellow NAPW member on the relationships between negative emotions and leadership competencies. If you have already completed the questionnaires, thank you very much and please disregard this message.

This dissertation study is being conducted by Laura McMillian, MA for completion of the PhD degree in Organizational Leadership at The Chicago School of Professional Psychology. Participating entails the completion of two online questionnaires that will take a total of about 30-35 minutes, after which you will have the option of receiving instant online results on your various leadership competencies. You may also request a copy of the final report. Your participation will be completely anonymous, and all responses will be kept confidential.

You qualify only if you have:

High job autonomy: You have a high degree of power to decide what and how tasks are completed as well as how to handle exceptions.

To begin, follow the link below:

<http://edu.surveygizmo.com/s3/973439/Negative-Emotions-and-Leadership-Competencies>

You will receive no further reminders, though you may request one. If you have any questions, feel free to reply with them or call (818) 613-2645.

Thank you for your timely participation.

Sincerely,

Laura McMillian, MA
Doctoral Candidate
The Chicago School of Professional Psychology

Appendix F

The short form Eysenck Personality

Questionnaire-Revised (EPQ-RS)

(57 items, answered ‘yes’ or ‘no’)

1. Does your mood often go up and down?
2. Do you take much notice of what people think?
3. Are you a talkative person?
4. Would being in debt worry you?
5. Were you ever greedy by helping yourself to more than your share of anything?
6. Are you rather lively?
7. Would it upset you a lot to see a child or animal suffer?
8. If you say you will do something, do you always keep your promise no matter how inconvenient it might be?
9. Can you usually let yourself go and enjoy yourself at a lively party?
10. Have you ever blamed someone for doing something you knew was really your fault?
11. Are good manners very important?
12. Are your feelings easily hurt?
13. Are all your habits good and desirable ones?
14. Do you tend to keep in the background on social occasions?
15. Do you often feel “fed up”?
16. Have you ever taken anything (even a pin or button) that belonged to someone else?

17. Do you prefer to go your own way rather than act by the rules?
18. Do you enjoy hurting people you love?
19. Are you often troubled about feelings of guilt?
20. Do you have enemies who want to harm you?
21. Would you call yourself a nervous person?
22. Do you have many friends?
23. Do you enjoy practical jokes that can sometimes really hurt people?
24. Are you a worrier?
25. As a child did you do as you were told immediately without grumbling?
26. Do good manners and cleanliness matter much to you?
27. Do you worry about awful things that might happen?
28. Have you ever broken or lost something belonging to someone else?
29. Do you usually take the initiative in making new friends?
30. Would you call yourself tense or “highly strung”?
31. Are you mostly quiet when you are with other people?
32. Do you think marriage is old-fashioned and should be done away with?
33. Can you easily get some life into a rather dull party?
34. Have you ever said anything bad or nasty about anyone?
35. Do most things taste the same to you?
36. As a child were you ever cheeky to your parents?
37. Do you like mixing with people?

38. Do you always wash before a meal?
39. Have you ever cheated at a game?
40. Have you ever taken advantage of someone?
41. Do you think people spend too much time safeguarding their future with savings and insurance?
42. Can you get a party going?
43. Do you try not to be rude to people?
44. Do you worry too long after an embarrassing experience?
45. Do you generally “look before you leap”?
46. Do you suffer from “nerves”?
47. Do you often feel lonely?
48. Can you on the whole trust people to tell the truth?
49. Do you always practice what you preach?
50. Are you easily hurt when people find fault with you or the work you do?
51. Have you ever been late for an appointment or work?
52. Do you like plenty of bustle and excitement around you?
53. Would you like other people to be afraid of you?
54. Do you sometimes put off until tomorrow what you ought to do today?
55. Do other people think of you as being very lively?
56. Do you believe one has special duties to one’s family?
57. Are you always willing to admit it when you have made a mistake?

EdITS/Educational & Industrial Testing Service (2001). EPQ-R Short Form. San Diego, CA 92167. Reproduction of this form by any means prohibited. Reproduced under License.

Appendix G

The Management and Leadership Questionnaire (MLQ30)

(192 items, answered on a 5-point Likert scale)

Emerging 1	Developing 2	Competent 3	Superior 4	Elite 5
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Page 1

1. Approaching problems with an open mind

<input type="checkbox"/>				
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2. Helping people to embrace change

<input type="checkbox"/>				
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3. Benchmarking performance against industry leaders

<input type="checkbox"/>				
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4. Assessing people's performance

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5. Making a strong contribution to the organization

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6. Giving people assignments to develop their skills

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7. Seeking out relationships that are mutually beneficial

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8. Applying logic and reasoning to solve problems

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9. Inspiring others to want to follow you

<input type="checkbox"/>				
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10. Resolving customer issues quickly

<input type="checkbox"/>				
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11. Focusing on delivery and performance

<input type="checkbox"/>				
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12. Keeping your sense of humour in difficult situations

13. Demonstrating a global mind-set

14. Building rapport and keeping others in the loop

15. Selling the benefits of change

16. Using humour in presentations

17. Analysing the causes of a problem

18. Producing clearly written reports

19. Helping team members know what is expected of them

20. Giving people latitude to get on with their work

21. Recruiting people from diverse backgrounds

22. Getting buy-in for creative ideas

23. Presenting to groups

<input type="checkbox"/>				
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24. Giving timely coaching

<input type="checkbox"/>				
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25. Influencing people's views and attitudes

<input type="checkbox"/>				
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26. Preserving relationships in difficult situations

<input type="checkbox"/>				
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27. Applying technical knowledge

<input type="checkbox"/>				
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28. Acting ethically

<input type="checkbox"/>				
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29. Tackling poor performance

<input type="checkbox"/>				
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30. Understanding how your organization reacts to change

<input type="checkbox"/>				
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31. Staying informed about industry best practice

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32. Identifying the key components of a problem

<input type="checkbox"/>				
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33. Addressing resistance to change

<input type="checkbox"/>				
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34. Giving people challenging job assignments

<input type="checkbox"/>				
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35. Keeping up to date with the international business world

<input type="checkbox"/>				
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36. Seeing the big picture

<input type="checkbox"/>				
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37. Following rules and procedures

<input type="checkbox"/>				
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38. Being totally honest with yourself

<input type="checkbox"/>				
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39. Being modest and self-effacing

<input type="checkbox"/>				
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40. Showing awareness of your strengths and weaknesses

<input type="checkbox"/>				
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41. Staying focused under pressure

<input type="checkbox"/>				
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42. Growing and supporting the team

<input type="checkbox"/>				
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43. Helping direct reports with training and development

<input type="checkbox"/>				
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44. Standing up for what is right

<input type="checkbox"/>				
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45. Driving the execution of strategy

<input type="checkbox"/>				
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46. Brainstorming solutions to problems

<input type="checkbox"/>				
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47. Helping people from different backgrounds succeed

<input type="checkbox"/>				
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48. Adapting quickly to new ways of doing things

<input type="checkbox"/>				
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49. Monitoring team members' development plans

<input type="checkbox"/>				
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50. Being open about your weaknesses

<input type="checkbox"/>				
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51. Discussing global business trends

<input type="checkbox"/>				
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52. Taking stands in the face of strong opposition

<input type="checkbox"/>				
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53. Using creative thinking techniques

<input type="checkbox"/>				
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54. Turning innovative ideas into reality

<input type="checkbox"/>				
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55. Reviewing financial performance

<input type="checkbox"/>				
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56. Sharing the vision, goals and strategy

<input type="checkbox"/>				
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57. Gathering information about competitors

<input type="checkbox"/>				
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58. Helping new employees get up to speed quickly

<input type="checkbox"/>				
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59. Communicating high expectations of people

<input type="checkbox"/>				
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60. Talking to customers about their requirements

<input type="checkbox"/>				
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61. Addressing and resolving conflict early

<input type="checkbox"/>				
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62. Calling for action while others talk

<input type="checkbox"/>				
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63. Understanding how different areas of the organization operate

<input type="checkbox"/>				
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64. Being grateful for feedback and criticism

<input type="checkbox"/>				
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65. Creating a climate where work is enjoyable

<input type="checkbox"/>				
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66. Working effectively with peers

<input type="checkbox"/>				
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67. Helping people work well together

<input type="checkbox"/>				
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68. Resolving disagreements

<input type="checkbox"/>				
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69. Having the courage to take tough decisions

<input type="checkbox"/>				
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70. Being honest and truthful

<input type="checkbox"/>				
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71. Increasing your knowledge about the business

<input type="checkbox"/>				
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72. Showing readiness to go the extra mile

<input type="checkbox"/>				
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73. Writing clearly and concisely

<input type="checkbox"/>				
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74. Negotiating win-win outcomes

<input type="checkbox"/>				
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75. Being aware of why you are doing things

<input type="checkbox"/>				
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76. Reviewing the company's global position

<input type="checkbox"/>				
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77. Negotiating effectively

<input type="checkbox"/>				
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78. Sharing information with peers

<input type="checkbox"/>				
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79. Handling difficult people and tense situations with diplomacy and tact

<input type="checkbox"/>				
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80. Writing effectively for different audiences

<input type="checkbox"/>				
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81. Paying attention to people's feelings and emotions

<input type="checkbox"/>				
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82. Finding ways to improve customer service

<input type="checkbox"/>				
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83. Analysing the organization's strategy

<input type="checkbox"/>				
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84. Presenting with self-assurance

<input type="checkbox"/>				
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85. Excelling in your work

<input type="checkbox"/>				
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86. Influencing people by addressing their needs and priorities

<input type="checkbox"/>				
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87. Setting financial targets

<input type="checkbox"/>				
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88. Demonstrating presence

<input type="checkbox"/>				
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89. Making people feel good about themselves

<input type="checkbox"/>				
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90. Getting buy-in to change from stakeholders

<input type="checkbox"/>				
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91. Reviewing the team's contribution and added-value

<input type="checkbox"/>				
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92. Improving business processes

<input type="checkbox"/>				
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93. Seeking feedback on your performance from your manager

<input type="checkbox"/>				
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94. Developing effective relationships with direct reports

<input type="checkbox"/>				
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95. Helping people get on in their careers

<input type="checkbox"/>				
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96. Giving honest answers to tough questions

<input type="checkbox"/>				
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97. Encouraging team members to speak candidly

98. Operating and competing globally

99. Putting people at ease

100. Practising what you preach

101. Spotting potential conflict

102. Facilitating team discussions

103. Getting along well with people from different cultures

104. Assessing the pros and cons of different decisions

105. Celebrating team achievement

106. Asking people about their concerns

107. Identifying critical paths and dependencies

108. Handling others' feelings and emotions sensitively

<input type="checkbox"/>				
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109. Keeping up with advances in your field

<input type="checkbox"/>				
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110. Following your inner compass

<input type="checkbox"/>				
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111. Producing financial reports

<input type="checkbox"/>				
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112. Learning lessons from process breakdowns

<input type="checkbox"/>				
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113. Modifying course to suit changing circumstances

<input type="checkbox"/>				
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114. Being a role model of inclusive and respectful behaviour

<input type="checkbox"/>				
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115. Being a good listener

<input type="checkbox"/>				
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116. Not worrying about what people think of you

<input type="checkbox"/>				
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117. Listening to others when you disagree

<input type="checkbox"/>				
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118. Acting in accordance with your principles

<input type="checkbox"/>				
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119. Being enthusiastic about new work challenges

<input type="checkbox"/>				
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120. Conveying clear expectations for assignments	<input type="checkbox"/>				
121. Reviewing your business unit's strategy	<input type="checkbox"/>				
122. Identifying and managing risks	<input type="checkbox"/>				
123. Showing interest in diversity issues	<input type="checkbox"/>				
124. Persuading people through writing	<input type="checkbox"/>				
125. Gathering data to help solve problems	<input type="checkbox"/>				
126. Answering questions after presentations	<input type="checkbox"/>				
127. Using networks to get things done	<input type="checkbox"/>				
128. Driving hard on the right issues	<input type="checkbox"/>				
129. Making well-considered decisions	<input type="checkbox"/>				
130. Managing feelings and emotions	<input type="checkbox"/>				
131. Identifying smarter ways to do things	<input type="checkbox"/>				

132. Adapting quickly to new situations

<input type="checkbox"/>				
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133. Accepting responsibility for mistakes

<input type="checkbox"/>				
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134. Developing the strategy

<input type="checkbox"/>				
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135. Knowing which emotions you are feeling and why

<input type="checkbox"/>				
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136. Encouraging people to be creative

<input type="checkbox"/>				
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137. Admitting mistakes

<input type="checkbox"/>				
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138. Taking responsibility for decisions

<input type="checkbox"/>				
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139. Developing clear and realistic project plans

<input type="checkbox"/>				
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140. Allocating responsibility for continuous improvement

<input type="checkbox"/>				
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141. Leading and facilitating team meetings

<input type="checkbox"/>				
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142. Identifying how to improve financial performance

<input type="checkbox"/>				
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143. Assessing risks before making decisions

<input type="checkbox"/>				
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144. Showing that you understand other people's points of view

<input type="checkbox"/>				
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145. Convincing people

<input type="checkbox"/>				
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146. Seeking views and ideas from team members

<input type="checkbox"/>				
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147. Promoting and asserting your views and ideas

<input type="checkbox"/>				
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148. Anticipating customer requirements

<input type="checkbox"/>				
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149. Setting personal development goals

<input type="checkbox"/>				
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150. Putting your thoughts down in writing

<input type="checkbox"/>				
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151. Not blaming other people for problems

<input type="checkbox"/>				
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152. Maintaining a positive outlook

<input type="checkbox"/>				
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153. Asking for feedback on your performance

<input type="checkbox"/>				
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154. Developing people

<input type="checkbox"/>				
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155. Setting high standards for customer service

<input type="checkbox"/>				
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156. Staying on top of business processes

<input type="checkbox"/>				
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157. Crediting team members for their ideas and achievements

<input type="checkbox"/>				
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158. Writing in plain English

<input type="checkbox"/>				
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159. Addressing work/life balance issues in the team

<input type="checkbox"/>				
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160. Establishing project governance arrangements

<input type="checkbox"/>				
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161. Reviewing regularly what people expect of you

<input type="checkbox"/>				
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162. Keeping promises and commitments

<input type="checkbox"/>				
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163. Establishing roles and structures to support change

<input type="checkbox"/>				
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164. Identifying best practice in your area

<input type="checkbox"/>				
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165. Building strong coaching relationships

<input type="checkbox"/>				
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166. Recognizing how others are feeling

<input type="checkbox"/>				
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167. Analysing how you are feeling

<input type="checkbox"/>				
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168. Fostering open communication

<input type="checkbox"/>				
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169. Understanding customers' needs

<input type="checkbox"/>				
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170. Reviewing operational plans

<input type="checkbox"/>				
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171. Demonstrating skill at persuasion

<input type="checkbox"/>				
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172. Demonstrating your values in action

<input type="checkbox"/>				
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173. Solving complex problems

<input type="checkbox"/>				
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174. Helping people dream big dreams

<input type="checkbox"/>				
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175. Developing relations with people from different cultures

<input type="checkbox"/>				
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176. Acting decisively

<input type="checkbox"/>				
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177. Reviewing the team's successes and failures

<input type="checkbox"/>				
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178. Having the courage to take the right action

<input type="checkbox"/>				
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179. Attracting the right people to work for you

<input type="checkbox"/>				
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180. Getting things done quickly

<input type="checkbox"/>				
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181. Analysing what competitors are doing in other countries

<input type="checkbox"/>				
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182. Making financial decisions

<input type="checkbox"/>				
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183. Responding quickly to changing circumstances

<input type="checkbox"/>				
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184. Helping people to share views and ideas

<input type="checkbox"/>				
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185. Helping people to think differently about a problem

<input type="checkbox"/>				
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186. Identifying and obtaining resources to carry out projects

<input type="checkbox"/>				
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187. Reading and interpreting financial reports

<input type="checkbox"/>				
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188. Developing the vision

<input type="checkbox"/>				
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189. Considering the possible consequences of critical decisions

<input type="checkbox"/>				
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190. Developing successors for key positions

<input type="checkbox"/>				
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191. Giving captivating presentations

<input type="checkbox"/>				
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192. Responding constructively to negative feedback

<input type="checkbox"/>				
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Source: Myskillsprofile.com (2009). Management and leadership questionnaire (MLQ30). Retrieved from <http://www.myskillsprofile.com/tests/mlq30>

Appendix H

Descriptive Statistics for Participants and Variables

Table H1

Age Group Frequency Distribution

Age Group	Frequency	Percent	Valid Percent*	Cumulative Percent
20-29	2	1.8	2.3	2.3
30-39	12	10.7	14.0	16.3
40-49	24	21.4	27.9	44.2
50-59	36	32.1	41.9	86.0
60-69	7	6.3	8.1	94.2
70-79	4	3.6	4.7	98.8
80-89	1	.9	1.2	100.0
Subtotal	86	76.8	100.0	
Missing	26	23.2		
Total	112	100.0		

*Valid Percent is the percentage with missing cases excluded.

Table H2

Ethnicity Frequency Distribution

Ethnicity	Frequency	Percent	Valid Percent*	Cumulative Percent
White	79	70.5	75.2	75.2
Black	16	14.3	15.2	90.5
Mixed	3	2.7	2.9	93.3
Other	3	2.7	2.9	96.2
Hispanic	3	2.7	2.9	99.0
Asian	1	.9	1.0	100.0
Subtotal	105	93.8	100.0	
Missing	7	6.3		
Total	112	100.0		

*Valid Percent is the percentage with missing cases excluded.

Table H3

Job Title Frequency Distribution

Job Title	Frequency	Percent	Valid Percent*	Cumulative Percent
CEO	25	22.3	24.0	24.0
President	23	20.5	22.1	46.2
President/CEO	22	19.6	18.6	67.3
Director	11	9.8	10.6	77.9
Owner	10	8.9	9.6	87.5
Other Leader	6	5.4	5.8	93.3
Manager	4	3.6	3.8	97.1
Other C-level	3	2.7	2.9	100.0
Subtotal	104	92.9	100.0	
Missing	8	7.1		
Total	112	100.0		

*Valid Percent is the percentage with missing cases excluded.

Table H4

Industry Frequency Distribution

Industry	Frequency	Percent	Valid Percent*	Cumulative Percent
Consulting	17	15.2	16.3	16.3
Other Services	12	10.7	11.5	27.9
Education	10	8.9	9.6	37.5
Health Services	10	8.9	9.6	47.1
Advertising/Marketing	5	4.5	4.8	51.9
Other Non-Profit	5	4.5	4.8	56.7
Social Services	5	4.5	4.8	61.5
Entertainment/Leisure	4	3.6	3.8	65.4
Medical/Health Care Devices	4	3.6	3.8	69.2
Retailing/Wholesaling	3	2.7	2.9	72.1
Aerospace/Auto/Transp Equip	2	1.8	1.9	74.0
Arts/Culture	2	1.8	1.9	76.0
Computers/Software	2	1.8	1.9	77.9
Diversified Financ Svs/Insur	2	1.8	1.9	79.8
Government	2	1.8	1.9	81.7
Investment Management	2	1.8	1.9	83.7
Pharmaceuticals	2	1.8	1.9	85.6
Real Estate Finance	2	1.8	1.9	87.5
Transportation	2	1.8	1.9	89.4
Accounting	1	.9	1.0	90.4
Advocacy	1	.9	1.0	91.3
Community/Econ Development	1	.9	1.0	92.3
Computer-related Services	1	.9	1.0	93.3
Construction	1	.9	1.0	94.2
Consumer Products	1	.9	1.0	95.2
Energy/Extractive Minerals	1	.9	1.0	96.2
High Technology/Electronics	1	.9	1.0	97.1
Real Estate Development	1	.9	1.0	98.1
Religion	1	.9	1.2	99.0
Telecommunications	1	.9	1.2	100.0
Subtotal	104	92.9	100.0	
Missing	8	7.1		
Total	112	100.0		

*Valid Percent is the percentage with missing cases excluded.

Table H5

MLQ30 Self-Assessment Rating Frequency Distribution

Rating	Frequency	Percent	Valid Percent*	Cumulative Percent
Excellent	33	29.5	39.3	39.3
Good	39	34.8	46.4	85.7
Not satisfactory	3	2.7	3.6	89.3
Satisfactory	9	8.0	10.7	100.0
Subtotal	84	75.0	100.0	
Missing	28	25.0		
Total	112	100.0		

*Valid Percent is the percentage with missing cases excluded.

Table H6

Descriptive Statistics for All Variables (N=112)

Variable	Mean	Standard Deviation	Range
Neuroticism scale	3.63	2.75	11
Lie scale	8.08	3.18	16
Low self-esteem subscale	1.39	.34	1
Unstable mood (EPQ item 1)	1.41	.49	1
Anxiety subscale	1.33	.34	1
Thinking and managing globally	5.46	1.73	8
Developing strategy/acting strategically	6.15	1.60	8
Managing knowledge/information	6.04	1.49	7
Creating and innovating	6.26	1.46	8
Managing costs/financial performance	5.97	1.67	9
Attracting/managing talent	5.89	1.60	8
Motivating/inspiring to excel	6.06	1.53	9
Coaching/developing people	5.84	1.53	9
Managing culture/diversity	5.92	1.77	8
Making sound decisions	5.94	1.50	7
Displaying initiative/drive	6.07	1.65	8
Showing courage/strength	6.14	1.33	7
Learning/developing continuously	5.83	1.48	7
Managing/implementing change	6.00	1.50	8
Adapting/coping with pressure	5.76	1.54	7
Executing strategies/plans	6.29	2.96	8
Improving processes/systems	5.76	1.63	8
Managing customer relationships/services	6.02	1.78	9
Analyzing issues/problems	6.14	1.60	8
Managing plans/projects	5.94	1.53	8
Facilitating/improving communication	6.01	1.57	9
Influencing/persuading people	5.94	1.78	9
Managing feelings/emotions	5.83	1.59	7
Speaking w/confidence/presenting to groups	6.18	1.62	8
Writing/reporting	6.19	1.79	8
Relating/networking	5.71	1.63	7
Listening/showing understanding	5.95	1.72	7
Building trust/modeling integrity	6.40	1.84	8
Identifying/resolving conflict	5.88	1.52	7
Cultivating teamwork/collaboration	5.92	1.63	7
Impression Management	6.14	1.94	9
Self-Deception	6.06	1.86	9

Appendix I

Multiple Regression Data

Table II

Regression Model Summary for Model with Ten Competencies Entered

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.560	.314	.246	2.384

Dependent Variable: Neuroticism

Predictors: (Constant), Costs, Feelings, Issues/Problems, Thinking Globally,
Customer, Culture, Initiative, Conflict, Adapting, Learning

Table I2

ANOVA for Regression Model for Model with Ten Competencies Entered

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	262.447	10	26.245	4.620	.000
	Residual	573.803	101	5.681		
	Total	836.250	111			

Dependent Variable: Neuroticism

Predictors: (Constant), Costs, Feelings, Issues/Problems, Thinking Globally,
Customer, Culture, Initiative, Conflict, Adapting, Learning

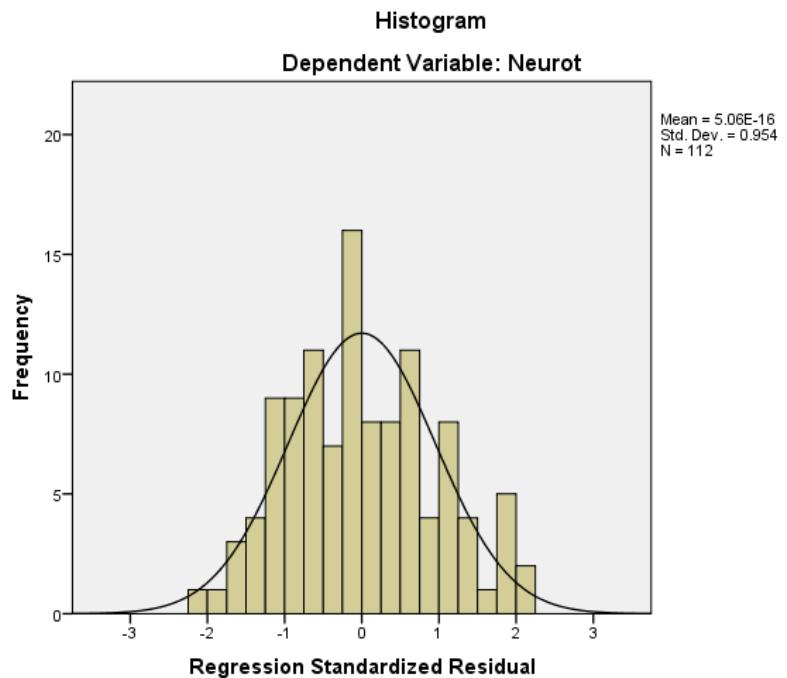


Figure II. Histogram Depicting Regression Standardized Residual Based on Frequency

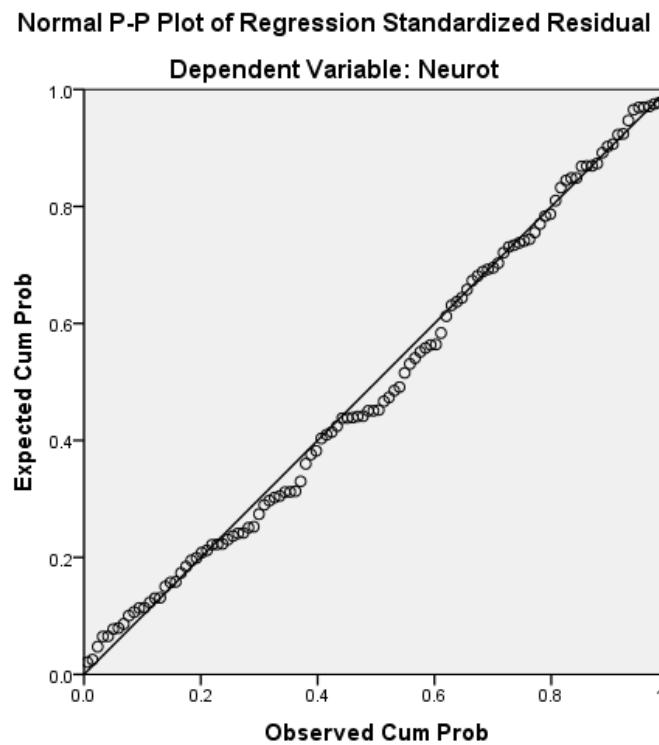


Figure I2. Normal Probability Plot of Regression Standardized Residual