RELATING NARCISSISTIC PERSONALITY TRAITS TO LEADERSHIP STYLES

by

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Abstract

The personality trait narcissism in a leader has multifaceted effects on an organization. The research on narcissism and leadership style has primarily focused on effects on the organization, and a few leadership styles. The literature is missing whether or not narcissism predicts a specific leadership style. This study investigates the relationship between narcissism and leadership styles of the full range leadership theory. Utilizing an online survey, 137 responses were received from mid- and upper-level managers of United States organizations. Data for each of three research questions were analyzed utilizing hierarchical regression, the first model included only the independent variables and the second model included in the independent variable and eight control variables. *Narcissistic Personality Traits Index* significantly predicted *Laissez-Faire Leadership Style Index* in both models. *Narcissistic Personality Traits Index* did not significantly predict *Transformational Leadership Style Index* and *Narcissistic Personality Traits Index* did not significantly predict *Transactional Leadership Style Index*. Study results indicate that narcissism significantly predicts Laissez-Faire leadership style, suggesting that leaders with a narcissistic personality trait may avoid leadership. These findings have implications for organizational stakeholders when monitoring narcissism in leaders.

Dedication

This dissertation is dedicated to my father Dr. Terry Walker who has shown by example that learning is a life-long process. My father has always encouraged me to be the best I can through learning. He has also provided tremendous support (mentally and financially), and guidance throughout my doctoral process, never allowing me to say it cannot be done. His example, support, and guidance will carry through to my career as a university professor, and throughout life, which I will always remember.

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CHAPTER 1. INTRODUCTION

Introduction to the Problem

The topic of this research study is the explanatory relationship between narcissistic personality traits and leadership styles defined by the full range leadership theory (Avolio & Bass, 1991). The personality trait models of narcissism (Campbell, Hoffman, Campbell, & Marchisio, 2011) described narcissism as a personality trait in terms of broader models. The full range leadership theory used traits of leaders to classify them into three styles of leadership: transformational, transactional, and laissez-faire (Avolio & Bass, 1991). This research study examined the explanatory relationship between the *Narcissistic Personality Traits Index* (IV) and the *Transformational Leadership Style Index* (DV), *Transactional Leadership Style Index* (DV), and *Laissez-Faire Leadership Style Index* (DV).

This research study expands the personality trait theoretical models by inclusion of the relation to leadership styles defined by the full range leadership theory. One advantage of the personality trait theoretical models approach is that different forms of narcissism, such as grandiose and vulnerable, can be compared using the same instruments, such as the five factor model (Campbell et al., 2011). Relating the personality traits found in the three leadership styles identified in the full range leadership theory to those found in personality trait theoretical models was expected to discover an explanatory relationship between these two constructs.

This research study also expected to add to the full range leadership theory by investigating the relationship between the leadership styles of a leader and the narcissistic personality traits of the leader. A goal of this research study was to reduce the gap in previously published literature examining narcissism and leadership styles utilizing the full range leadership theory. Previous studies have found relationships between narcissistic personality traits and transformational and transactional leadership styles (Resik, Whitman, Weingarden, & Hiller, 2009) and charismatic leadership (Humphreys, Zhao, Ingram, Gladstone, & Basham, 2010; Sosik, Chun, & Zhu, 2014; Sankowsky, 1995; Galvin, Waldman, & Balthazard, 2010). However, research studies have not identified whether narcissistic personality traits in a leader affect his/her leadership style.

Background of the Study

The trait theory of leadership was initially introduced by Terman (1904, as cited in Judge, Bono, Ilies, & Gerhardt, 2002) and was followed by Cowley's summary of trait theorists who observed that the study of traits is a required component in the study of leadership (1931, as cited by Judge et al., 2002). Previous research studies proposed leadership styles are defined by individual actions, follower commitment, and decision making (Antonakis, Avolio, & Sivasubramaniam, 2003; Hamstra et al., 2014; Resik et al., 2009). The research literature regarding the relationship between narcissistic personality traits and leadership styles is limited and has primarily focused on positive and negative effects of narcissism (Campbell & Campbell, 2009; Petit & Bollaert, 2012), narcissism's role in leadership emergence and effectiveness (Grijalva, Harms, Newman, Gaddis, & Fraley, 2015), narcissism and transformational/transactional leadership

(Resick et al.2009), and narcissism and charismatic leadership (Deluga, 1997; Galvin et al. 2010; Gardner & Avolio, 1998; Humphreys et al., 2010; Sankowsky, 1995).

Previously published research studies related to the organizational effects of leader narcissism have produced conflicting results. Identified consequences of narcissistic leadership include visionary innovation (Rosenthal & Pittinsky, 2006), heightened levels of risk-taking fueled by overconfidence (Campbell, Goodie, & Foster, 2004), abusive and destructive actions resulting in counter-productive work behavior, and reduced job performance (Liu, Liao, & Loi, 2012; Meurs, Fox, Kessler, & Spector, 2013; Spain, Harms, & Lebreton, 2014). Higgs (2009) stated that the topic of narcissistic leadership has caused considerable debate, and that very little empirical research existed on the topic. Rijsenbilt and Commanduer (2013) determined that a positive relationship exists between leader narcissism and organizational fraud. Miner (2006) determined, from Robert House's initial 1976 charismatic theory, that narcissistic leadership may have positive effects on organizations.

Additional research has been suggested to (a) improve understanding of narcissistic personality traits found in leaders (Back, Küffner, Dufner, Gerlach, & Rauthmann, 2013), (b) study what motivates successful leadership (Ghaseabeh, Reaiche, & Soosay, 2015), and (c) study what deters successful leadership (Liu et al., 2012). Higgs (2009) suggested that future research is warranted to identify narcissism at lower management levels to determine how this trait evolves as the manager advances in an organization in an effort to deter possible negative consequences of a narcissistic leader. Avoilio, Bass, and Jung (1999) also indicated that leadership styles have focused on

upper-level managers or chief executive officers and suggested that future research is warranted to investigate the applicability of the full range leadership theory to different levels of leadership. Additional research studies have been suggested to examine the dyadic relationships between narcissistic leaders and subordinates, including the type of employee (passive vs. active) narcissistic leaders prefer (Grijalva et al., 2015). Grijalva et al. (2015) also encouraged future research to examine narcissism in multiple leadership levels, various types of leader behavior, and the climate of organizations (e.g., emphasize teamwork versus a competitive climate).

Statement of the Problem

The research problem addressed by this research study is the gap in the literature concerning the relationship between narcissistic personality traits and leadership styles as defined by the full range leadership theory (Avolio & Bass, 1991). The research literature on the relationship between narcissistic personality traits and leadership styles indicates that leaders with narcissistic personality traits have negative effects on organizations (Conger, 1990). Previously published research studies have also identified the same personality traits that create great leaders also have the potential to be extremely destructive to organizations (Resik et al., 2009), and a leader's personality traits are reflected in all dimensions of an organization (Resik et al., 2009). The research literature on narcissism indicates this trait is destructive in leaders (Chatterjee & Hambrick, 2007; Judge, LePine, & Rich, 2006; McCleskey, 2013) and that narcissistic personality traits may be found in several leadership styles, such as transformational/transactional leadership (Resik et al., 2009), and charismatic leadership (Deluga, 1997; Galvin et al.,

2010; Humphreys, Zhao, Gladstone, & Basham, 2010; Sankowsky, 1995; Sosik et al., 2014). However, the relationship between narcissistic personality traits and leadership styles defined by the full range leadership theory of mid- and upper-level managers of United States organizations has not been studied.

Purpose of the Study

The purpose of this quantitative, non-experimental, explanatory, cross-sectional, survey research study was to increase knowledge about the relationship between narcissistic personality traits in leaders and their leadership styles as defined by the full range leadership theory (Bass & Avolio, 1991). Results of this research study increased organizational stakeholder knowledge of leadership styles that attract persons with narcissistic personality traits. Increased stakeholder knowledge of the relationship between narcissistic personality traits and leadership styles provides a tool to monitor and intervene, if necessary, when a narcissistic leader's decision-making processes negatively affect an organization.

Rationale

The approach of this research study is consistent with the research questions and hypotheses. The purpose of this research study was to explain the relationship between narcissistic personality traits and leadership styles as defined by the full range leadership theory. The literature supports that narcissistic personality traits in leaders have effects on organizations (Back et al., 2013; Resik et al., 2009). Narcissistic personality traits were analyzed in relationship to the three leadership styles of the full range leadership theory, including four control variables utilizing multiple linear regression. The

dependent variables are interval scale because the data were collected using a survey instrument with items that utilized a five-point Likert scale in which multiple questions were averaged to create indexes for each variable. Thus, a multiple linear regression model was appropriate (Nathans, Oswald, & Nimon, 2012).

Research Questions

Three research questions were addressed in this research study, with each research question having four subquestions. The three primary research questions and 12 subquestions were

Research Questions

The research questions for this study were

RQ_1: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Age* (CV), *Gender* (CV), *Race* (CV), and *Education in Years* (CV), explain variations in the *Transformational Leadership Style Index* (DV)?

RQ_2: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Age* (CV), *Gender* (CV), *Race* (CV), and *Education in Years* (CV), explain variations in the *Transactional Leadership Style Index* (DV)?

RQ_3: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Age* (CV), *Gender* (CV), *Race* (CV), and *Education in Years* (CV), explain variations in the *Laissez-Faire Leadership Style Index* (DV)?

Research Subquestions

RQ_1SQ_1: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Age* (CV), explain variations in the *Transformational Leadership Style Index* (DV)?

RQ_1SQ_2: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Gender* (CV), explain variations in the *Transformational Leadership Style Index* (DV)?

RQ_1SQ_3: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Race* (CV), explain variations in the *Transformational Leadership Style Index* (DV)?

RQ_1SQ_4: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Education in Years* (CV), explain variations in the *Transformational Leadership Style Index* (DV)?

RQ_2SQ_1: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Age* (CV), explain variations in the *Transactional Leadership Style Index* (DV)?

RQ_2SQ_2: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Gender* (CV), explain variations in the *Transactional Leadership Style Index* (DV)?

RQ_2SQ_3: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Race* (CV), explain variations in the *Transactional Leadership Style Index* (DV)?

RQ_2SQ_4: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Education in Years* (CV), explain variations in the *Transactional Leadership Style Index* (DV)?

RQ_3SQ_1: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Age* (CV), explain variations in the *Laissez-Faire Leadership Style Index* (DV)?

RQ_3SQ_2: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Gender* (CV), explain variations in the *Laissez-Faire Leadership Style Index* (DV)?

RQ_3SQ_3: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Race* (CV), explain variations in the *Laissez-Faire Leadership Style Index* (DV)?

RQ_3SQ_4: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Education in Years* (CV), explain variations in the *Laissez-Faire Leadership Style Index* (DV)?

Significance of the Study

The significance of this study to the field of management and leadership is to contribute to the management knowledge base by explaining the relationship between narcissistic personality traits and leadership style in the target population of mid- and upper-level managers of organizations in the United States. The impact that narcissistic personality traits in leaders have on decision-making and leadership skills is central to organizational functioning and performance and has recently piqued researchers'

attention (Campbell, Goodie & Foster, 2004; Chatterjee & Hambrick, 2007). Previous research studies have primarily focused on the negative consequences of narcissistic personality traits in a leader (Boddy, 2014; Grijalva & Harms, 2014; Hansbrough & Jones, 2014; Sosik et al., 2014). However, published research studies have not examined the relationship between narcissistic personality traits and leadership styles. Providing a better understanding of the relationship between narcissistic personality traits and leadership styles of leaders offers potential benefits to both scholars and practitioners in organizations in the United States.

Definition of Terms

The terms used in this research study have been defined in the literature associated with narcissistic personality traits and the full range leadership theory.

Narcissistic personality traits include (Raskin & Hall, 1979)

- Grandiose sense of one's self-importance – an individual believes that he/she is more important than most, if not all, other people.
- Criticism or defeat causes either indifference, rage, humiliation, inferiority, or shame – an individual is unable to accept criticism and believes that he/she is always successful, despite contradictory external validation.
- Exhibitionism – an individual constantly desires to be in the public eye, presenting his/her extraordinary visions.
- Fantasizes about limitless power and success – an individual never considers failure, only victory, which further empowers him/her.

- Relationships equivocate between extreme over-adulation and devaluation – an individual is incapable of engaging in and maintaining healthy relationships due to the overly abundant need for self-glorification.
- Lack of empathy – an individual is incapable of understanding and caring about others' needs, desires, and fears.
- Entitlement – an individual believes he/she is deserving without question of all success, money, power, and respect.
- Exploitativeness – an individual sees no wrong in abusing relationships, rules, systems, and power to achieve self-serving, determined goals.

The full range leadership theory (Bass & Avolio, 1991) involves three constructs that require definition: transformational leadership, transactional leadership, and laissez-faire leadership.

Transformational leadership style accentuates common goals and team participation. Leaders influence followers through a common shared vision and encourage creativity and learning in followers (Hamstra, et. al., 2014). Transformational leadership involves four dimensions (a) idealized influence, (b) individualized consideration, (c) intellectual stimulation, and (d) inspirational motivation (Ghasabeh, Reaiche , & Soosay, 2015). This form of leadership style is grounded in managing and developing intellectual capital.

Transactional leadership style places emphasis on the leader-follower relationship based on a contingent reward system (Hamstra, et. al., 2014). This leadership style focuses on individual achievements that often alienate followers from one another.

Antonakis, Avolio, and Sivasubramanian (2003) identify three first-order factors of transactional leadership (a) contingent-reward leadership, (b) management-by-exception, active (corrective transactions), and (c) management-by-exception, passive (intervention only occurs after noncompliance).

Laissez-faire leadership style is the absence or avoidance of leadership and decision making actions. Laissez-faire leaders relinquish authority and responsibility (Antonakis et al., 2003). Despite this style's passive description, Laissez-faire leadership style is identified as an active style because the leader chooses to avoid decision making.

Assumptions

The current research study made assumptions regarding theories, topic, and methodology. The researcher used a postpositivist approach that assumed an objective reality exists that is not the creation of the human mind and is therefore independent of human behavior (Crossan, 2003). There is no clear distinction of narcissistic theories, what is right or wrong. Instead three identified models exist that researchers can apply to various questions related to the research study topic, which assume narcissism is a personality trait, that narcissism can be encouraged, or that the trait is adaptive or addictive creating changes in follower perception of the narcissistic leader over time (Campbell et al., 2011).

Theoretical Assumptions

The full range leadership theory (Avolio & Bass, 1991) assumed that leaders have one of the three leadership styles, transformational, transactional, or laissez-faire. The transformational leadership style assumed that leaders are proactive and encouraging.

Transactional leadership style assumed that leaders use goal setting and a contingent reward system. Laissez-faire leadership style is assumed to be a passive style of leadership. In addition, the personality trait models (Campbell et al., 2011) assumed that narcissism is a personality trait that can be identified utilizing various personality trait models, such as the five factor model.

Topical Assumptions

Topical assumptions relate to the full range leadership theory (Avoilio & Bass, 1991) and the personality trait models of narcissism (Campbell et al., 2011). This research study assumed that the full range leadership theory and the five factor model are valid theories and that they apply to the relationship between narcissistic personality traits and leadership styles.

Methodological Assumptions

Methodological assumptions concerned study participants, participant responses, and the analytical model. Participant responses were assumed to be truthful, and participants were assumed to understand the survey instrument. The use of a Qualtrics Audience was assumed to be an effectual method for gathering and measuring qualified participants. In addition, Qualtrics ® Audience service was assumed to be trustworthy in randomly selecting participants from the participant pool. Finally, the participant pool was assumed to be a representative sample frame of mid- and upper-level managers in organizations in the United States that mirrored the population.

This research study also assumed that participants were willing to spend the time required to complete the survey and would not attempt to complete the survey too quickly

by not carefully reading and considering their answer to each question. Based upon preliminary testing, the length of time required to take the survey was estimated to be between five and ten minutes. The survey also included one attention question. Any surveys that contained contradictory answer patterns or that were completed in less than five minutes were discarded by Qualtrics as containing invalid responses.

This research study used the hierarchical multiple linear regression analytical model, which was assumed to be effective in measuring the relationship between the independent variable and the dependent variables. The multiple linear regression model has nine specific assumptions (a) random sampling, (b) the dependent variable measured using a continuous scale, (c) the independent variables measured using either a continuous or categorical scale, (d) independence of residuals, (e) linearity of the dependent and independent variables, (f) homoscedasticity of the error variances, (g) absence of multicollinearity in the independent variables, (h) absence of significant outliers, high leverage points, and highly influential points, and (i) the residuals are approximately normally distributed (Laerd.com, 2016). The data were analyzed to ensure these assumptions were met.

Limitations

The limitations of this study are closely associated with the assumptions previously mentioned. This study utilized Qualtrics, which is a professional online survey company whose participant pool is predisposed to participate in surveys, which may result in biased responses. One of the inclusion criterion, participants must have an immediate supervisor, also may result in biased results. Another possible source of bias

is that the survey asks participants to evaluate their immediate supervisor, which they may not have been able to accurately evaluate.

Other limitations of this study related to the constructs being investigated. Limiting the study to one personality trait, narcissism, may have biased the results relating to how personality traits relate to the leadership style of an individual. In addition, limiting the study to leadership styles defined by the Full range leadership theory (Avolio & Bass, 1991) excludes several other leadership styles discussed in the literature, such as authentic leadership (Luthans & Avolio, 2003).

Theoretical/Conceptual Framework

The principal theoretical framework utilized in this study is the full range leadership theory (Bass & Avolio, 1991). Bass and Avolio posited that the full range leadership theory model encompasses a broader range of leadership styles available to researchers. They "challenge the leadership field to broaden its thinking about what constitutes a much broader range of leadership styles than the paradigms of initiation of structure and consideration" (Avolio & Bass, 2004, p. 1). The authors noted specifically that, as organizations move from a hierarchical structure to a more lateral structure, the need for leadership reform is apparent and requires a broader view of leadership styles. The theory was premised on three leadership styles, transformational, transactional, and laissez-faire leadership styles.

The construct of narcissistic personality traits, as investigated in non-clinical studies, does not focus primarily on the extreme personality disorders studied in the psychological fields. Non-clinical studies, particularly those investigating narcissism in

organizational settings, focus on the various traits of this personality construct and their individual and collective effect on leadership and organizational performance and decision making. Previously published research studies on narcissism and leadership have reached various conclusions (Grijalva et al., 2015) that suggested future research was needed on narcissism and leadership. The narcissistic framework of this study was premised on Campbell et al.'s (2011) proposed three models of narcissism, which includes personality trait models, self-regulation models, and other models. The primary focus of this study will further the personality trait models.

Organization of the Remainder of the Study

The remainder of this study is organized in congruence with Capella University's School of Business and Technology dissertation framework. The next four chapters present the background for the study, as well as results and interpretation. First, the literature review provides background on the topic of this research study. Following the literature review is a discussion of the methodologies and justification for utilizing the multiple linear regression. Next, the results of the data analysis utilized to investigate the research questions and hypotheses are presented.

Chapter 2 provides background for the study by examining and analyzing previous literature on the topic. The literature review examined research studies that focused on the theoretical framework of the full range leadership theory and narcissistic personality traits constructs. The histories of both frameworks are presented from seminal to current research.

Chapter 3 presents and justifies this research study's research design and methodology. This chapter will identify and justify the data collection and analysis practices. Specifically, the chapter presents the sampling strategy, measures and instruments, and analysis of the data included in the study. Chapter 3 will also examine and present the validity and reliability of each survey instrument used in this research study. The statistical tools utilized to examine data are also presented and justified. Finally, ethical considerations of this study are examined and addressed.

Chapter 4 presents the findings resulting from an analysis of the data. The hypotheses are presented and tested to provide the results needed to interpret the data analysis, which will be presented in the final chapter.

Chapter 5 interprets and discusses the data analysis results identified in the preceding chapter. Results will be summarized and discussed to provide answers to the research questions and support the acceptance or rejection of the null hypotheses. Limitations of this study will be presented and recommendations for future research will be suggested based on the findings of this research study.

CHAPTER 2. LITERATURE REVIEW

Narcissism in leaders has been examined regarding how these traits affect organizations, both constructively and destructively (Back, Küffner, Dufner, Gerlach, & Rauthmann, 2013; Resik, Whitman, Weingarden, & Hiller, 2009). Previously published research on leadership styles have focused on a leader's actions, and approaches to supervision and decision making (Anotakis, Avolio, & Sivasubramaniam, 2003). The constructs of narcissism and leadership have been examined in research and academia as separate constructs for more than a century. In the last several decades, research has identified these two constructs as one topic in response to multiple corporate scandals on a global level over the last two decades.

The earlier literature on this topic provided a brief introduction to the construct of narcissism and leadership, however it was not until the early part of the 21st century that research began to investigate the relationship between these two constructs. Research on narcissism and leadership has focused on five basic categories in studies examining the organizational effects of narcissism and leadership (a) risk and decision-making, (b) performance and performance variance, (c) benefits and costs, (d) counter-productive work behavior (CWB), and (e) leadership effectiveness. This chapter will present previously published research on the Full range leadership theory, and its measurement. Next narcissism, narcissistic related theories, and narcissism measurement are reviewed. This is followed by a discussion of the five identified categories of effects of narcissism

in leadership. Last, this chapter will present a review of the literature related to narcissism and leadership styles.

Full Range Leadership Theory

The full range leadership theory (Avolio and Bass, 1991) concentrates on three leadership styles, transactional, transformational, and laissez-faire, and was created to broaden the range of leadership styles investigated in research (Avolio & Bass, 2004). Avolio & Bass (1991) expanded on previous leadership models that they noted have a narrow focus in response to the changing structure and globalization of organizations. The authors noted specifically that as organizations move from a hierarchical structure to more lateral structures, the need for leadership reform is apparent and requires researchers and academicians to broaden their view regarding what constitutes leadership styles. Three identified main leadership styles compose the full range leadership theory, transactional leadership, transformational leadership, and laissez-faire leadership, but the theory focuses on augmenting transactional with transformational leadership styles. The first two styles are discussed in detail below, however laissez-faire leadership style (also noted as non-transactional laissez-faire leadership) is defined as the absence of leadership (Antonakis et al., 2003; Eagly, Johannesen-Schmidt, & van Engen, 2003; Ho, Fie, Ching, & Ooi, 2009; Toor & Ofori, 2009) and therefore requires little attention.

Transactional Leadership Theory

Transactional leadership is described as a contingent reward system wherein the leader informs employees of the tasks they are to accomplish within a given timeline, and the specified reward they will earn if achieved (Hamstra, Yperen, Wisse, & Sassenberg,

2014). Two forms of transactional leadership have been identified, constructive and corrective, each using different approaches to monitor and reward followers (Avolio & Bass, 2004). As a constructive transactional leader, focus is on creating and defining task expectancies that utilize individual capabilities, and specify the rewards to be received once the task has successfully been completed. The authors note individual capabilities are identified when the leader works within the group or with individuals. Corrective transactional leadership focuses on correcting or punishing mistakes, if passive the leader waits to take action until a mistake has occurred, whereas corrective-active leaders monitor employees closely, watching and waiting for mistakes.

The constructs of transactional leadership have been identified by other researchers to be contingent reward, management-by-exception, active, and management-by-exception, passive (Antonakis et al., 2003; Ho et al., 2009). Also, Toor and Ofori (2009) examined the application of ethical leadership within transactional leadership and found only the contingent reward construct of transactional leadership was positively related to ethical leadership, the other two constructs were negatively related to ethical leadership. Transactional leadership's primary focus is task accomplishment through assigned tasks, and a reward system that is contingent on the individual's ability to complete these tasks according to specified timelines.

Transformational Leadership Theory

Transformational leaders provide focus, vision, and encouragement for followers. In addition, these leaders are communal, recognize and encourage achievements of followers, mentor followers, and attend to their individual needs (Eagly et al., 2003).

Transformational leaders also understand employee needs and objectives, and encourage them through a shared vision, and are viewed as trustworthy and committed (Ho et al., 2009).

Based on these descriptions, transformational leadership can create an organization where employees feel safe to share ideas, to collaborate with others at various levels of the organization, and are committed to the organization. Transformational leadership is comprised of five factors (Antonakis et al., 2003; Ho et al., 2009) (a) idealized influence (attributed) refers to a leader who is socially charismatic, appears to be powerful, confident, and ethical, (b) idealized influence (behavior) refers to a leader who engages in charismatic actions which focus on a shared vision, values, and beliefs, (c) inspirational motivation refers to the leader's ability to motivate followers by optimistically communicating the shared vision and that the challenging goals are achievable, (d) intellectual stimulation refers to the leader's ability to encouragingly direct followers to be innovative, and seeks answers to challenging problems, and (e) individualized consideration refers to the leader's ability to interact with each follower and acknowledge individualistic needs, desires, and goals.

Transformational leaders, as previously identified attributes indicate, often provide multiple benefits to an organization at various levels. Employees are trusting, empowered to be innovative, satisfied with and committed to their job and leader, and experience a sense of belonging to a 'family' (Hamstra et al., 2014; Ho et al., 2009). Transformational leaders are also recognized as trusting, caring, motivating, visionary individuals with the charisma and capabilities to move an organization forward (Avolio

& Bass, 2004; Antonakis et al., 2003; Hamstra et al., 2014). The positive experiences by both employees and leaders of transformational leadership create an organization that not only survives in the current global market, but helps the organization to excel.

Laissez-Faire Leadership

Laissez-faire leadership style has been defined in the literature as a total lack of leadership (Antonakis et al., 2003; Eagly, Johannesen-Schmidt, & van Engen, 2003; Ho, Fie, Ching, & Ooi, 2009; Toor & Ofori, 2009). Specifically Eagly et al. described a laissez-faire leader as one who is frequently absent and uninvolved during critical occurrences. Antonakis et al. identified this leadership style as nontransactional laissez-faire leadership, describing such a leader as one who avoids decision making, abandons responsibility, and does not utilize his/her authority. Skogstad, Hetland, Glasø, and Einarsen (2014) stated the operational definition of this style in the Multifactor Leadership Questionnaire describes needs of subordinates are not met. Muenjohn et al. (2008) described a laissez-faire leader as one who does not clearly communicate expectations, does not address conflicts, and avoids making decisions. Hinkin and Schriescheim (2008) supported the consensus that laissez-faire style is a lack of leadership by stating that these leaders fail to respond to subordinate performance, either rewarding or punishing their performance.

Transactional-Transformational Leadership Paradigm

The transactional-transformational leadership paradigm is a neocharismatic conceptualization stemming from Burn's (1978) initial work expounded by Bass (1985, as cited by Bass, 1997). Bass (1997) posited that this new leadership paradigm identifies

a leader-follower relationship typically begins with a simple transactional exchange, however for leadership to be effective it needs to encompass transformational qualities. Bass further noted that this leadership paradigm includes four leader universals initially proposed by Lonner (1980, as cited by Bass, 1997), with Bass adding a fifth universal to include (a) a simple universal – anytime humans gather in groups there is a leader, (b) a variform universal – a regularity influenced by organizations or cultures, (c) a functional universal – a relation that is universal between variables, (d) variform functional universal – a positive correlation exists between attributed charisma and satisfaction, and (e) systematic behavioral universal – a theory that explains if-then outcomes in relationships across organizations and cultures.

Full Range Leadership Measurement

The Multifactor Leadership Questionnaire (MLQ) (Form 5-X) is noted to be the most widely used instrument to measure the three styles of leadership that comprise the full range leadership theory (Avolio & Bass, 2004). The MLQ Form 5-X contains 45 items in a survey that utilizes a five point Likert scale for participant answers, one version allows the participant to self-rate while the other version has participants rate another individual. Previous research has challenged the stability and validity of the MLQ, however results were found to be related to modifications to the original instrument, its administration and/or its interpretation (Antonakis, Avolio, & Sivasubramaniam, 2003).

Previous research assessing the validity of the Multifactor Leadership Questionnaire has utilized several variations on factor models, ranging from a two-factor model to a nine-factor model. Ryan and Tipu (2013) proposed a two-factor model of full

range leadership that is more applicable in developing countries. The authors posited that developing countries place more extreme burdens on organizations, such as institutional instability, intense competition, and macroeconomic volatility, requiring a modified version of the nine-factor model. Ryan and Tipu proposed two factors, active leadership and passive-avoidant leadership, best describe the leadership prototypes in different cultures, particularly in developing countries.

Avolio, Bass, and Jung (1999) examined Bass' (1985) original six-factor model of the full range leadership theory, consisting of (a) charismatic/inspirational leadership, (b) intellectual stimulation, (c) individualized consideration, (d) contingent reward, (e) management-by-exception (active only), and (f) passive-avoidant leadership. Results of the studies identified a high degree of consistency in estimates of reliability, factor loadings, and inter-correlations utilizing the six-factor model. The authors however proposed the introduction of three higher-order factors, transformational, developmental exchange, and corrective avoidant, stating this model provides the best fit for the measurement of the Full range leadership theory.

Antonakis, Avolio, and Sivasubramaniam (2003) examined the nine-factor full range leadership theory utilizing the Multifactor Leadership Questionnaire (MLQ). The authors identified that the MLQ has experienced several revisions to address concerns about its psychometric properties and in an effort to better measure the component factors, merging the expert advice of six leadership scholars. Results of Antonakis et al.'s (2003) study found consistently strong evidence the factor structure of the MLQ is best represented by the nine-factor model, providing stability within similar contexts. In

addition, Antonakis et al. found support in the generalizability of the nine-factor model as a representation of the full range leadership theory based on the use of large independently gathered samples. The identified factors include (a) idealized influence (attributes), (b) idealized influence (behaviors), (c) inspirational motivation, (d) intellectual stimulation, (e) individualized consideration, (f) contingent reward, (g) management-by-exception active, (h) management-by-exception passive, and (i) laissez-faire.

Narcissism and Related Theories

The construct of narcissism was first introduced in Greek mythology when Narcissus fell in love with his own image (Judge, LePine, & Rich, 2006). Narcissism, which is described as a grandiose sense of self, feelings of entitlement, and a constant need for admiration (Grijalva, Harms, Newman, Gaddis, & Fraley, 2015; Wales, Patel, & Lumpkin, 2013) has been divided in the literature between pathological or clinical narcissism, and normal or social/personality psychology narcissism. Narcissism is viewed in clinical studies as a personality disorder known as pathological narcissism or Narcissistic Personality Disorder, and in social/psychology studies as personality traits. Each view of narcissism involves different constructs which cannot be universally applied to clinical studies and social psychology studies.

Miller and Campbell (2008) stated that although the study of narcissism has dated back to the late 1800s, it did not officially emerge as a mental disorder until the publication of *DSM-III* (American Psychiatric Association, 1980, as cited by Miller & Campbell, 2008). Miller and Campbell explained that two conceptualizations of

narcissism have emerged, both of which are supported by studies from well-known psychological researchers. Fraud (1931, as cited by Miller and Campbell) described narcissistic individuals as well-adjusted and dominant. Kernberg (1975, as cited by Miller and Campbell) described the personality to be composed of a broader borderline disorder. These varying conceptualizations of narcissism has led to a clinical construct that recognizes both perspectives, but primarily embraces Kernberg's variation that narcissism is a borderline personality disorder. Miller and Campbell further identified the different perspective of narcissism used in social/personality psychology as a dimensional personality that is not pathological.

Clinical Narcissism

Clinical theorists hypothesized that narcissism is a normal factor in in the self-development process that evolves as the individual matures (Cain, Pincus, & Ansell, 2008). Normal narcissistic needs in individuals continue throughout their lives, based on age-related requirements, to maintain a realistic sense of self-esteem and cohesion. Cain et al. (2008) noted that it is believed pathological narcissism develops when normal progression of self-development is flawed, causing inability to maintain self-cohesion and increased inability to regulate emotional responses. Clinical narcissistic theories presented by the authors view variations of grandiosity and vulnerability, but all agree that pathological narcissism includes both of these characteristics.

The *Diagnostic and Statistical Manual of Disorders* (5th ed. *DSM*-5, American Psychological Association, as cited in Roche, Pincus, Conroy, Hyde, & Ram, 2013, p. 315) "defines personality pathology in terms of significant impairment in self- and

interpersonal-functioning that are relatively stable across time and consistent across situations." Roche et al. (2013) noted that research has examined how individual differences in stable traits and the contextual differences in situations affect personality stability. The authors also explained that pathological narcissists have an extreme need to be admired and recognized, and that narcissism can also appear in expressions of vulnerability. The authors utilized the Contemporary Interpersonal Theory to investigate how differences in previous social situations, and how individual personality pathology affect relational functioning in daily interactions.

Interpersonal Theory of Personality. Interpersonal theory of personality (Sullivan, 1953, as cited in Pincus & Ansell, 2003) posited that personality is defined by recurring interpersonal interactions, creating an individual's character. Pincus and Ansell (2003) examined subsequent research that furthered Sullivan's theory in an effort to study the whole person through relational dynamics, individual differences, and psychological processes. Contemporary interpersonal theory is based on four assumptions relating to (a) interpersonal relationships, (b) mental capacities, (c) agency and communion, and (d) interpersonal complementarity.

Pincus and Ansell (2003) note that Sullivan posited individuals exist in social environments and express behaviors that bring them together in the shared pursuit of satisfaction, self-esteem, and security (a situation that is anxiety-free). Further, these amalgamating tendencies develop into a growing complexity of interpersonal experiences. This process begins in infancy and develops throughout an individual's life through memory of social interactions. These interactions result in interpersonal learning

of social behavior and self-concept creating lower and higher levels of anxiety based on interpersonal situations.

Interpersonal theory of personality also proposes that all interpersonal interactions fall in the spectrum of highly rewarding (is highly secure and promotes self-esteem) to various degrees of anxiety (low self-esteem and insecurity) (Pincus and Ansell, 2003). The latter scenario in the end, results in situations that create such extreme anxiety the individual is disassociated with the interaction. In addition, the authors stated that interpersonal experiences trigger the creation, development, maintenance, and variability of personality through the continuous patterns of experiences to increase self-esteem and security, while reducing anxiety. Each individual's variation in learning from interpersonal experiences are based on his/her cognitive maturation, and understanding of cause and effect related to all situations.

Social/Personality Psychology Narcissism

Clinical theory and research typically focus on the pathological characteristics of narcissism, while social/personality psychology focuses on an individual's adaptive and maladaptive characteristics, viewing it through a normal personality trait lens (Roche, Pincus, Lukowitsky, Ménard, & Conroy, 2013). The authors explained that narcissism is normal in the development process of humans, and described variations of this process. Individuals who receive healthy support and empathy from their parents (caregivers) perceive their environment to be consistent and secure, resulting in a relatively positive self-image. The authors noted that while parents may not always fully support a child's needs, if received in tolerable levels a child is able to normalize his/her own needs.

Combining these experiences enables an individual to develop healthy methods to navigate disappointment and create a positive self-concept. Kets de Vries (1995) noted that children who experience lack of support, abuse, or are ignored become individuals who are fixated on unhealthy narcissistic characteristics, such as power, prestige, superiority, beauty, and status.

Social or normal narcissists exhibit similar characteristics as those described by clinical theorists, such as grandiosity, manipulation, self-enhancement, and dominate interpersonal style however excludes narcissistic vulnerability included in clinical evaluations (Cain et al., 2008),. Sedikides, Rudich, Gregg, Gumashiro, and Rusbult (2004) stated that normal narcissism is operationally defined to encompass seven components (a) exhibitionism, (b) autonomy, (c) entitlement, (d) superiority, (e) vanity, (f) exploitation, and (g) self-sufficiency. Sedikides, et. al. (2004) also noted that previous literature has viewed normal narcissism through two theoretical perspectives, the big five factor structure (or the five factor model) and attachment theory. Campbell et al. (2011) identified that personality trait models define narcissism utilizing personality traits models, such as the five-factor model.

Big Five Factor Structure/Five Factor Model. McDougall (1932) initially proposed that personality can be more broadly analyzed when classified into five "distinguishable but separate factors," (p. 418) which include disposition, temper, intellect, character, and temperament (as cited by Digman, 1990). Digman further stated that subsequent research investigated this construct and in particular Cattell performed systemic work between 1943 and 1948 which was overwhelmed with factors. The author

noted that several other researchers utilized 21 of Cattel's original factors, identifying only five that were significantly correlated. In addition, although each researcher's terms for the five noted factors were slightly different, they communicated similar constructs regarding personality factors.

The five factor model that developed through the empirical research beginning with McDougall (1932) resulted in five factors, each measured by six subscales. Widiger (1993) identified the five factors to be (a) neuroticism, (b) extraversion, (c) openness, (d) agreeableness, and (e) conscientiousness. The five factor model was later applied to analysis of narcissism, which is noted to be a heterogeneous construct resulting in various maladaptive personality traits (Glover, Miller, Lynam, Crego, & Widiger, 2012). Glover et al. developed the Five Factor Narcissism Inventory (FFNI) which is a self-report measure of narcissism based on the five factor model with 15 subscales. Miller, Gentile, and Campbell (2013) later substantiated the findings of Glover et al (2012) supporting the Five Factor Narcissism Inventory is a valid measure of narcissism based on the five factor model.

Attachment Theory. Attachment theory is premised on previous research of Bowlby (1969, 1982, 1973, 1980) and Ainsworth (1967, Ainsworth, Blehar, Waters, & Wall, 1978) which proposed that humans have an inborn need for proximity to parents (caregivers) who provide safety and protection, especially in moments of stress or danger (as cited by Bennett, 2006). The primary attachment is to the parent who enables the child to regulate feelings and behaviors that emerge when the child feels threatened or unsafe.

Bennett presented three variations of child development that are contingent on the attachment theory. First, children raised in secure attachment patterns develop a sense that he/she is worthy of receiving care and views others as responsive and dependable. However, if a child is raised by parents who chronically ignore or dismiss his/her attachment needs, the individual develops a paradigm of self as unworthy of care, and a model of others as unresponsive, rejecting, and uncomfortable with close relationships. Last, Bennet suggested that a child who was exposed to abusive parenting and those parents experienced unresolved attachment issues of their own, the child becomes disorganized, placing the child in a weak state that leaves him/her afraid of parents and unable to obtain comfort.

Narcissistic Measurement

The first noted measurement instrument of narcissism is the Narcissistic Personality Inventory (NPI) developed by Raskin and Hall (1979) which initially consisted of 223 pairs of items, one was a narcissistic statement and the other was a non-narcissistic statement. The authors analyzed the items after administering the test to 71 university students, and identified 80 items that met the significance criterion. The authors concluded by noting that the inventory does not specifically identify a personality disorder, rather measures the degree to which there is individual difference in the trait labeled narcissism.

A subsequent study performed by Raskin and Terry (1988) examined the tetrachoric correlations between the Narcissistic Personality Inventory item responses and identified seven first-order factors of narcissism, and proposed their studies provide

evidence for a general construct of narcissism. The seven factors of narcissism were noted to be (a) authority, (b) exhibitionism, (c) superiority, (d) vanity, (e) exploitativeness, (f) entitlement, and (g) self-sufficiency. These same traits have been identified across the literature, substantiating the construct of narcissism as measured by the Narcissistic Personality Inventory. The authors further explored the construct validity of the Narcissistic Personality Inventory with regard to several indexes derived from participants in the study, as well as response congruity with the Leary Interpersonal Check List (Leary, 1956, as cited by Raskin and Terry, 1988). Raskin and Terry concluded that their studies provide a foundation for developing a measure of narcissism, but believe that the current instrument does not account for all of the dimensions on the narcissistic personality trait.

Emmons (1984 and 1997) conducted separate studies to evaluate the construct validity of the Narcissistic Personality Inventory and make comparisons with the NPI and various measures of pathological narcissism. Emmons' first group of studies (1984) identify four meaningful factors (exploitativeness/entitlement, leadership/authority, superiority/arrogance, and self-absorption/self-admiration), that provided support for the construct and divergent validity of the NPI, and suggested that the NPI reflects individual behaviors that are observable by the public. Emmons' second group of studies (1997) provided additional evidence for the validity that narcissism is a normal personality trait as assessed by the NPI. In addition, the author identified that narcissism is a multidimensional construct comprised of the four moderately correlated factors; however,

only exploitativeness/entitlement was found to correlate significantly with the two pathological measures of narcissism.

Several subsequent studies evaluated the stability and internal consistency of the Narcissistic Personality Inventory. Del Rosario and White (2005) examined the "current form" of the instrument which was reduced from a 54-item to a 40-item measure following a principal components analysis performed by Raskin and Terry (1988, as cited by del Rasario & White, 2005). The author further stated that Emmons has evaluated the full 54-item measure, and provided different results. The authors identified four NPI component scales (authority, exhibitionism, superiority, and vanity) have high moderate correlations in a test-retest study, while two component scales (exploitativeness and self-sufficiency) yielded low moderate correlations and the component entitlement fell just below the low moderate range.

Corry, Merritt, Mrug, and Pamp's (2008) study also found different results in their confirmatory factor analysis of factor components of the NPI than Emmons had previously reported. The authors identified satisfactory Cronbach's alphas for two scales (leadership/authority and exhibitionism/entitlement) and the scales were moderately correlated, suggesting a two-factor model factor is a better fit. Cory et al. (2008) suggested adding items to the NPI for researchers to distinguish between pathological and nonpathological narcissism, and between overt and covert narcissism, as well as create an instrument all researchers can utilize when assessing narcissism.

Maxwell, Donnellan, Hopwood, and Ackerman (2011) performed a study to identify similarities and differences between the NPI and the PNI (Pathological

Narcissism Inventory, Pincus et al., 2009). The authors explained that the NPI is a measure designed to assess normal narcissism whereas the PNI assesses pathological narcissism. Although each measure attempts to identify different forms of narcissism, Maxwell et al. expect to found correlation between some of the scales of each measure. Results identified a small to moderate correlation between the two measures, but despite this low level of overall convergence, scales relating exploitativeness and entitlement were more strongly correlated. In addition, the authors' results suggested both measures have some pathological content as they contain similar correlations with symptoms of narcissistic personality disorder. On the other hand, results also found independent associates with the NPD scale, indicating there is non-overlapping variance between each instrument. The authors concluded by stating the study supports that each instrument measures two forms of narcissism with distinctively different attributes with the exception of exhibitionism and exploitativeness, which are common to both normal and pathological definitions of narcissism.

Ames, Rose, and Anderson (2006) proposed a shorter version of the Narcissistic Personality Inventory instrument, noting the original 40-item version may decrease responses due to time constraints and respondent fatigue. The authors proposed a 16-item unidimensional measure derived from the original 40 items, which is similar in its relation to other personality measures and dependent variables. Ames et al. (2006) performed five studies to investigate the relationships of the short and long measures to the big five personality traits, examined convergent/discriminant validity, performed test-retest of the data, and investigated predictive validity of the new instrument. Results

indicate the Narcissistic Personality Inventory-16 is a valid measure of the construct of narcissism in situations where the longer measure is impractical or would limit participation. A subsequent study examined if this instrument can be further shortened, as well as provided a total score and three subscale scores.

The Narcissistic Personality Inventory-13 was introduced as a shorter measure of the original 40-item version, positing that it included measurement of three subscales (Gentile, Miller, Hoffman, Reisly, Zeichner, and Campbell, 2013). The authors further stated that both the NPI-16 and the NPI-13 provide overall reliability and discriminant validity. The NPI-13, however may be favored due to the inclusion of the subscales, consistent with the original instrument, and not included in the NPI-16. The identified subscales are: (a) leadership/authority, (b) grandiose/exhibitionism, and (c) entitlement/exploitativeness. Entitlement/exploitativeness was identified to be more closely related to maladaptive traits which lead to various negative outcomes, such as psychological distress, impulse-control problems, submissiveness, and negative emotions. The authors further reported that their second study identified that the subscales of the NPI-13 and the NPI-40 were insignificantly correlated, validating the NPI-13's use when time is limited.

Effects of Leader Narcissism

Introduction

Narcissism as it relates to leadership has since been identified as a personality trait, ranging from extreme narcissism, or narcissistic personality disorder, to what is noted to be normal narcissism, which is described as a grandiose sense of self, feelings of

entitlement, and a constant need for admiration (Grijalva et al., 2015; Wales et al., 2013). Narcissism, as defined by the American Psychological Association is an extensive personality construct that includes fantasies of never-ending power and success, exaggerated sense of self-importance, lack of empathy, entitlement, need for admiration, and exploitation of others (as cited by Blair, Hoffman, & Helland, 2008). Kets de Vries and Miller's (1985) article was among the first to examine narcissism and leadership (as cited by Wales et al., 2013), noting that narcissism, although typically viewed as detrimental, can also be viewed as beneficial in leaders. Kets de Vries (1994) extended the first article by postulating that the inner-makings of leaders begin in childhood, which is also the time-period an individual develops narcissism in response to parental responses.

Studies examining various relationships between narcissism and leadership remained silent for several years. Following is a synthesis of subsequent research identifying the five basic categories and how they relate to the topic of narcissism and leadership. Although each category includes several studies, they are presented in the order in which the first study was originally published.

Risk and Decision-Making

Narcissism as previously explained is a multifaceted personality dimension, to include a grandiose sense of self, which the individual must constantly reinforce. The self-view, that one is better than others encourages the narcissist to be overconfident in the decision making process (Campbell et al., 2004). The authors noted overconfidence creates an over-inflated subjective view of the self's abilities, as well as the view that one

will succeed in all endeavors. In addition, overconfidence leads the individual to make riskier decisions fueled by a strong vision for success. Campbell et al. performed three correlational studies which identified narcissism to be a significant predictor of overconfidence, and risk-taking. The results also supported the authors' prediction that narcissists will maintain success even when faced with poor performance. Narcissistic leaders also use this overconfidence to create change in the organization to continually feed their need for admiration.

The narcissistic leaders' need for admiration and desire for success is so strong they focus on constant change in the organization to support self-needs. Narcissistic leaders favor strategic dynamism, or constant change, in an organization and take bold actions to maintain an attentive audience (Chatterjee, & Hambrick, 2007). The authors posited that leaders with greater narcissistic tendencies create greater change in the organization, and will acquire other companies at a more rapid pace. Chatterjee and Hambrick's study supported their hypothesis, indicating that narcissistic leaders take impudent actions that draw attention and praise, which may result in extreme successes or extreme losses. Further research was suggested to investigate signals that might encourage higher risk taking levels of a narcissistic leader, and the leader's blindness to objective performance indicators.

Social praise and performance indicators are valued by all leaders as measurements of their performance in the organization, and the leader's predisposition to take higher levels of risk. Narcissistic leaders, however place little or no value on these objective indicators, and interpret social praise as encouragement to take greater risks

(Chatterjee, & Hambrick, 2011). The authors' study examined how narcissistic and non-narcissistic leaders react to external stimuli, such as social praise and performance measures. The results identified narcissistic leaders are emboldened by social praise, and less effected by objective performance measures, encouraging them to take greater risks.

Each of these articles suggests that narcissistic leaders take higher risks than non-narcissistic leaders. Higher levels of risk are interrelated with organizational performance and performance variance. In the following subsection literature developing around the topic of performance and performance variance will be reviewed.

Performance and Performance Variance

Narcissistic leaders have been identified to be overly confident, with a belief that they possess extraordinary performance capabilities. Judge, LePine, and Rich (2006) proposed that this self-enhancing focus has negative effects on contextual and task performance. The authors further posited that narcissistic leaders are more likely to focus on activities that reflect task performance, because contextual performance is hinged on self-sufficiency, while task performance is more likely to be recognized and rewarded. Judge et al.'s study tested their hypotheses that narcissism is positively related to self-ratings of contextual and task performance, and negatively related to other-ratings of these constructs. Although the results did not support the proposed hypotheses, they did indicate that narcissism more positively predicted self-reports of contextual performance, supporting the hypothesis that narcissists have a grandiose view of self.

The self-serving traits of narcissistic leaders suggest that not only will organizational performance be affected by these leaders, but also the performance will be

more extreme. Chatterjee and Hambrick's (2007) study linked the risk narcissistic leaders take to further their social admiration and praise to extreme organizational performance, noting they take more grandiose and bolder actions that result in higher risk-reward. The study identified that narcissistic leaders deliver more extreme performance than their non-narcissistic counter-parts, the study however was unable to identify if these extremes tended to be more positive or negative, possibly due to limiting the study to one industry.

Organizations employ strategy-making procedures and systems to evaluate and inaugurate new projects, this process is identified as entrepreneurial orientation (EO) (Wales et al., 2013). The authors further stated that firms are labeled as entrepreneurial when they are innovative and proactive in product development, engage in riskier ventures, and have the ability to commit large resources on a regular basis for these projects. Several traits of a narcissistic leader attracts him/her to engage in EO strategies, including the need for eternal success, a desire for admiration, and lack of concern for organizational resources. Wales et al.'s study investigated if narcissistic leaders who engage in EO influence organizational performance. Results indicated that narcissistic leaders have a penchant to engage in EO in an effort to support their eternal need for admiration and success. In addition, narcissistic leaders are lured by the abundant resources, and are not concerned with the risks involved in launching their projects.

Narcissism has multiple effects on organizational performance, including contextual, and task performance, as well as cause extreme performance variance.

Leaders are often evaluated by performance measures to determine to what degree the they are effective in their organizational role.

Benefits and Costs

Research has been contradictory regarding leader narcissism and resulting benefits or costs for an organization. Several studies identified narcissistic leaders provide both benefits and costs, while others only identified only costs.

Benefits and costs. The construct of narcissism has been connected with concerns of self-enhancement since inception (Campbell, & Campbell, 2009). The authors proposed a contextual reinforcement model of the benefits and costs of self-enhancement sought by narcissistic leaders during two time periods, the emerging zone (early stage relationships and short-term contexts) and the enduring zone (continuing relationships and long-term contexts). The model identified multiple benefits for both the leader and others during the emerging zone, including the leader's success in public and likeability, as well as others' excitement and satisfaction with the current relationship. During the emerging zone very few costs are identified for either the leader or others.

During the enduring zone of Campbell and Campbell's model (2009) however, the narcissist experiences very few benefits and others experience no benefits, while all parties experience numerous costs, such as addiction to the rush, reduced likeability (leader) and aggression and abuse (others). Separating the benefits and costs into time-periods is consistent with Campbell and Campbell's model as initially narcissists are seen as charismatic, empowering, and innovative, however eventually they are identified as self-serving, abusive, and greedy.

Research has divided benefits and costs into two sub-categories of leadership, 'good/bright-side' and 'bad/dark-side' leadership. Back, Küfner, Dufner, Gerlach, Rauthmann, and Denissen (2013) proposed a new process model of narcissism that distinguished two positively related dimensions of narcissism, rivalry and admiration, which comprise the narcissistic admiration and rivalry concept (NARC). The authors posited this model encompasses the motivational, and behavioral and social interaction outcomes resulting from narcissism in leaders. Study results were similar to those found by Campbell and Campbell (2009) as admiration was a found to be predictor of agentic behaviors and rivalry was a predictor of lack of communal behaviors. The authors further noted the results indicate that these two contradictory dimensions of narcissism translate into observable behaviors with very different social outcomes.

Narcissists have been defined to have multiple personality traits, some are attractive, such as extreme self-confidence, and some are offensive, such as arrogance (Sosik, Chun, & Zhu, 2014). Sosik et al. also proposed a new process model validating how the interaction of a neutral form of leader charisma and narcissism, both constructive and destructive, interrelate to encourage follower psychological empowerment and moral identity. Results identified leader charisma to be positively related to both follower psychological empowerment and moral identity. In addition, the results find charismatic leaders that possess constructive narcissism are significantly positively related to follower psychological empowerment and moral identity. Charismatic leaders that possess destructive narcissism, on the other hand were not significantly positively related to follower psychological empowerment.

Costs. Research has also identified only costs, or negative effects of narcissism and leadership. Higgs (2009) examined previous research to extend the knowledge of 'bad' or 'dark-side' leadership and its negative consequences on the organization. The author identified several themes in the literature to describe 'bad' leadership which include abuse of power, causing damage to others, excessive use of control, and non-adherence to rules. These themes are all traits of a narcissist who uses power and authority for personal gain, and believes rules do not apply to him/her, creating devastation to self and others in the long-term. Higgs concluded by questioning previous literature that identifies a constructive form of narcissism, noting that the relationship may be initially possible, however in the long-term will lead to deteriorated organizational performance.

Amemic and Craig (2010) proposed that financial accounting facilitates extreme narcissism in CEOs as CEOs are primary participants in the ongoing communication and measures of accounting. The authors further stated that the accounting policy and earnings management decisions made by CEOs are congruent with their need to maintain a positive self-image. Amemic and Craig also asserted narcissistic CEOs cite financial accounting language and measures to captivate corporate stakeholders, and provide support for the narcissist's need for unlimited success, often supporting projects that are financially destructive to the organization.

Cognitive processes of a narcissistic leader contribute to abusive supervision (Hansbrough, & Jones, 2014). The authors proposed a model that explains how leader narcissism can lead to abusive supervision. Hansbrough and Jones' model suggested the

cognitive processes occur when the leader interprets followers' facial expressions. In addition, the authors stated their model connects narcissism to implicit leadership and followership theories that lead to abusive supervision and make false accusations about followers' performance. The concepts of the authors' model is interesting, and the authors make interesting propositions, however the authors did not perform a study to substantiate the proposed model, and a study might prove difficult as the model is premised on follower facial expression and leader response to these expressions.

Narcissistic leaders have been identified to have the ability to powerfully influence the organizations they lead. Galvin, Lange, and Ashforth (2015) proposed that narcissistic leaders can psychologically identify with the organization so strongly that they believe they are the organization. According to the authors, conventional organizational identification suggests that an individual identifies with the visions and goals of the organization, leading to a sense of oneness with the company. Further, on the extreme end of narcissistic organizational identification the leader believes he/she is central to the organization and advances the individual's notion that his/her identity predisposes the organization's identity. Galvin et al.'s identification view has several noted negative consequences to the organization, including the narcissistic leader's belief they are so central to the organization that they have full ownership and authority over the company. Again, these authors made several interesting propositions regarding this topic, however did not perform a study to substantiate these propositions.

Narcissistic personality traits identify the individual is interested in only his/herself with little or no regard for others. Kets de Vries (2016) examined how this

trait can lead to greed, and the effects greed has on the organization. Greed is described by the author in several quotations and one parable, each identifying extremely greedy individuals who are consumed to their death to acquire more wealth and power. Kets de Vries stated greed is one of the seven "dark" side personality traits that scourge mankind, and is an addiction. The author posited that narcissistic individuals obsessively focus on wealth and money as a means to support their grandiose self-view. Further, the author noted that greed is a cause of such detriments as hostility, and corruption.

Narcissism in this view is noted to provide both benefits and costs to organizations. The articles reviewed in this sub-section, however identify numerous costs and minimal benefits. The following sub-section will analyze one other cost that has received much attention in previous literature, counterproductive work behavior.

Counterproductive Work Behavior

Narcissistic leaders have been identified to cause multiple detrimental effects on organizations, including counterproductive work behavior. Counterproductive work behavior has been identified as acts that harm or intend to harm the organization or its participants, such behaviors include aggression, theft, work avoidance, or deliberately performing work tasks incorrectly (Meurs, Fox, Kessler, & Spector, 2013). The authors identified two primary stressors of counterproductive work behavior, interpersonal conflict and organizational constraints, and two types of counterproductive work behavior, -persons and –organization. Meur et al.'s study examined the moderating effects of the grandiose exhibitionism dimension of narcissism between the two primary stressors and the two types of counterproductive work behavior. Results supported the

hypotheses that the relationship between stressor and counterproductive work behavior is stronger as levels of narcissism increase. Previously, it was noted that narcissistic leaders have minimal interpersonal skills and often become angry and aggressive when faced with challenges to the self. Meur et al.'s study supported higher levels of narcissism will likely result in higher levels of counterproductive work behavior, both personal and organizational.

Corporate psychopaths are identified as organizational leaders that possess the three traits of dark-side leadership, narcissism, Machiavellianism, and psychopathy (Boddy, 2014). Boddy posited that corporate psychopaths create interpersonal conflict and bullying within the organization, creating counterproductive work behavior. A study examining these relationships identified a significant positive relationship between corporate psychopathy and conflict, employee affective well-being, and counterproductive work behavior. Although not all narcissistic leaders will be identified as corporate psychopaths, their lack of regard for others eventually causes the leader to initiate conflict, or their actions will otherwise result in counterproductive work behavior.

Subsequent research examining the relationship between dark-side traits and counterproductive work behavior identifies that of the three traits, culture is the only trait that could moderate the relationship between narcissism and counterproductive work behavior (Grijalva, & Newman, 2015). The study described culture as either collectivist or individualist, positing that in-group collectivist cultures moderate (weaken) the relationship between narcissism and counterproductive work behavior. The results found a moderate effect between narcissism and counterproductive work behavior, however

when cultures were highly IGC (in-group collectivism), narcissism had a weaker relationship with counterproductive work behavior. These results indicate that narcissists affect individual counterproductive work behavior more than that of collectivists, as the comradery creates support and reaffirmation of ability, negating the negative feedback from the narcissistic leader.

Counterproductive work behavior, as the other benefits and costs, can have primary effects on an organization and all stakeholders. Following is a synthesis of leadership effectiveness articles presented in this literature review.

Leadership Effectiveness

Leadership effectiveness is an extension of performance measures, as it is an evaluation of the ability of the leader to effectively manage and guide the organization to success. In addition, leadership effectiveness also examines the leader's ability to collaborate with, and to understand, and maintain relationships with others in an organization. Last, leadership effectiveness analyzes the leader's critical thinking abilities, as well as the aptitude to rationally apply their cognitive skills to the organizational environment and adaptively make changes in times of disruption.

Leadership effectiveness has been examined in concert with personality since Terman (1904) initially proposed a trait theory of leadership (as cited by Judge, Bono, Ilies, & Gerhardt, 2002). Blair, Hoffman, and Helland (2008) identified two constructs to analyze leader effectiveness, interpersonal performance and conceptual performance. Blair et al. examined leader effectiveness applying these constructs to differences between narcissistic and non-narcissistic leaders, as assessed by supervisors and

subordinates of the leaders. The results did not support the authors' hypotheses inasmuch as supervisors' responses indicate a significant negative correlation between narcissism and interpersonal performance, while subordinate responses show no relation. Supervisor and subordinate responses found no significant relationship between narcissism and conceptual performance. Blair et al. stated it is unclear if all participants were included after completing a personality inventory prior to the study, or if only those exhibiting narcissistic traits were included, as well as responses from their supervisor and subordinates.

Previous research examining narcissism and leadership effectiveness have provided conflicting results regarding whether narcissists benefit or encumber the organization (Grijalva et al., 2015). The authors performed meta-analysis on prior research to extend the theory on narcissism and leader emergence, and leader effectiveness. The authors also examined the differing responses reported on an observer- versus self-reported leadership effectiveness and supported that there is no linear relationship between these two constructs. Results indicated that narcissists are effective in the emerging stages of leadership, as they exhibit traits of extroversion and charisma. Leadership effectiveness, on the other hand was found to have no linear association with narcissism, unless effectiveness was based on self-reports.

Narcissistic leaders tend to view their actions as successes, even when outside sources indicate otherwise. The first article reviewed in this sub-section did not use a self-rating view of leader effectiveness, and likely would have supported the authors' hypotheses, despite non-support results from supervisor and subordinate ratings. The

second article on narcissism and leadership effectiveness supported the idea that narcissistic leaders believe they always make fabulous decisions. Leadership effectiveness is fundamental to the organization, as an effective leader creates benefits for the firm while non-effective leaders create costs, and losses.

Narcissism and Leadership Styles

Narcissism has been examined in concert with a few leadership styles, such as charismatic leadership and transformational/transactional leadership. The majority of the studies however examine the relationship between narcissism and charismatic leadership. This section will present the focus and relation of narcissism and the two mentioned leadership styles.

Transformational/Transactional Leadership

Narcissism has been examined as a personality trait that has both positive and negative consequences on organizations and all its stakeholders (Resick, Whitman, Weingarden, & Hiller, 2009). Resick et al. explained that transactional leadership consists of ongoing leader-follower exchanges, which are often premised on a contingent reward system to fortify follower behavior. The authors explained transformational leadership as an extension of transactional leadership, focusing on leader attributes that create follower passion and central vision.

Resick et al. hypothesized that narcissism will be negatively related to transformational and transactional leadership styles. Results found a negative relationship between narcissism and contingent reward systems (transactional leadership), supporting the narcissist's lack of concern for other individuals (lack of

empathy). Initially results did not find a significant relationship between narcissism and transformational leadership. A supplemental analysis was performed removing transactional leadership from the model to examine only narcissism and transformational leadership. Results from this model suggested various relationships between narcissism and transformational leadership, identifying narcissism strongly related to some facets and negatively related to other facts of transformational leadership. Another subsequent analysis determined that narcissism is not significantly related to intellectual stimulation or charisma (characteristics of transformational leadership), and is strongly, negatively related to individual consideration (another characteristic of transformational leadership).

Charismatic Leadership

House's charismatic leadership (as cited by Miner, 2006) described a leader whose characteristics influence and encourage followers. The characteristics of charisma include a need to be influential, dominant, self-confident, and possess a strong follower belief that the leader's actions are righteous and moral. House further described the effects charismatic leaders have on followers to include loyalty, devotion, trust, unchallenged compliance, and often fundamental changes in the followers' values and beliefs. House noted however these effects and their degree are solely determined by the individual observing the leader. Charismatic leaders, as these influential traits define, are successful individuals that are driven towards goals, and are able to encourage followers to join the cause, driving the organization to success. Additionally success should be an ongoing benefit, if the leader maintains the identified traits. House's initial theory

focused on the concepts and constructs of leader traits and how followers interpret these traits, however did not elaborate on how an individual becomes charismatic.

Previous research on charismatic leadership primarily agrees initially this trait is positive and creates a vision of change and hope, however disagreement exists on whether the leader can maintain this image, if the effects remain positive or become negative over time, and if all followers are affected in the same way. Charismatic leadership evaluation from a dramaturgical perspective suggests that the process is ongoing between leader and follower, stating the relationships between leader, follower, and environment are mutual and collaborating (Gardner and Avolio, 1998). Balkundi, Kilduff, and Harrison (2011) supported this idea of an ongoing process by leaders as they must integrate into the network of followers to maintain support, motivate, and inspire change.

Leaders who are both charismatic and narcissistic typically promote their own visions, whether justifiable or not, and create a following utilizing their charismatic skills (Sankowsky, 1995). The author posited that narcissistic, charismatic leaders easily and often unknowingly exploit followers for personal gain. In addition, Sankowsky explained that followers of a narcissistic, charismatic leader endorse the leaders' visions and actions, and readily accept explanations when things go wrong. Further, Sankowsky noted that not all followers will be accepting of a narcissistic charismatic leader's actions and exploitations, but often non-accepting followers are quickly pushed out of the organization.

Charismatic leadership is potentially predicted by personality traits, such as narcissism (Deluga, 1997). Deluga explained that attributes of narcissism, such as overt self-confidence as well as the self-view that the individual is special creates a characteristic essential to charisma. Deluga further stated that due to the extensive reach American Presidents' performance can have on society, examining the connection between personality traits and charismatic leadership is warranted. The author further posited that Presidential narcissism is positively related to charismatic leadership and rated performance. Deluga's historiometric study supported his hypothesis that narcissistic personality traits are positively related to charismatic leadership and rater performance. Last, the author summarized previous literature identifying both positive and negative effects of narcissistic, charismatic leaders.

Narcissistic personality traits have also been noted to predispose charismatic leadership emergence (Humphreys, Zhao, Ingram, Gladstone, & Basham, 2010). Humphreys et al. proposed a conceptual framework of narcissism and emerging charismatic leadership patterns in response to a gap in literature regarding these constructs. The authors' model conceptualized the links between two previously identified types of narcissism (reactive and constructive) and two previously identified types of charismatic leadership (personalized and socialized).

Humphreys et al. noted personalized charismatic leaders are initially focused on follower identification with self, creating a feeling of empowerment, eventually resulting in detrimental effects for followers. Socialized charismatic leaders on the other hand entice followers to join the leaders' shared vision, creating a follower perspective that the

leader exemplifies the group's identity and is representative of group members. Reactive narcissists crave power and continually attempt to gain more power on a self-serving path, often causing detrimental effects for themselves and their followers. Reactive narcissism is in alignment with personalized charismatic leadership. Constructive narcissists, as the authors noted also seek power, but use their power to develop follower abilities and is in alignment with socialized charismatic leadership.

Galvin, Waldman, and Balthazard's (2010) examined socialized charismatic leadership and normal narcissism, or as termed by Humphreys et al.'s (2010) constructive narcissism, to better understand the complex relationship between these two constructs. Galvin et al. specifically examined the role of visionary communication (the mechanism that creates confidence, trust, intrinsic motivation, emotional appeal, and admiration for the leader) in the development of leader charisma attributions. Study results indicated narcissistic individuals are less socialized, and that narcissism is positively related to vision boldness. Galvin et al. further stated that study results show a positive relationship for charismatic leadership, but not for contingent reward (transactional leadership), and concluded that narcissism has both positive and negative aspects in conjunction to charismatic leadership.

Charismatic leaders with narcissistic personality traits also affect follower psychological empowerment and moral identity (Sosik, Chun, & Zhu, 2014). Sosik et al. noted that in previous studies narcissism has been linked to both constructive and destructive forms of charismatic leadership. The authors investigated the interaction between a leader's charisma and narcissism, how this interaction influences follower

empowerment, and the follower's self-view of being moral and ethical. Another focus of Sosik et al.'s study was to clarify the development of follower motivational processes which are influenced by the type of narcissism possessed by the charismatic leader, and elucidated the differences between socialized and personalized charismatic leaders.

Sosik et al.'s study results identified several relationships within the constructs being examined. First, the authors found charismatic leadership was positively related to both follower psychological empowerment and moral identity. Second, results suggested charismatic leaders have a stronger positive relationship with follower psychological empowerment when the leader is perceived by followers to possess a more constructive form of narcissism. Further, leaders who were perceived by followers to have a more destructive form of narcissism did not have a significant positive relationship with follower psychological empowerment. Last, study results determined the relationship between follower moral identity and the leader's interaction of charisma and narcissism was fully mediated by follower psychological empowerment. Sosik et al.'s study results theoretically implied that a leader's charisma combined with a destructive form of narcissism deter follower moral identity development through empowerment processes, causing follower confusion as to what is moral within their organization.

Conclusion

Leadership styles and narcissism are the frameworks for the study of leader behavior within organizational contexts. The full range leadership theory involves three styles of leadership that Avolio and Bass (1991) posited encompass a broad range of leadership styles. Narcissism has been researched in both clinical and organizational

settings, and has identified two variations of this personality trait, pathological/clinical or social/psychology narcissism. From the origins of these constructs to their current state of research, their merit for leadership and organizational research is evident.

Previously published research has examined various relationships and results of narcissistic leadership, and has been conflicting in its findings. Narcissism in leaders has been identified to constructively and destructively affect an organization (Back et al., 2013; Resik et al., 2009). Previous studies have examined four organizational effects of narcissistic leadership (risk and decision-making, performance and performance variance, benefits and costs, counter-productive work behavior) and leadership effectiveness.

Research has also previously examined the relationship between a few leadership styles, such as transformational/transactional leadership, and charismatic leadership. Results indicate a negative relationship between narcissism and transactional leadership, and after several studies identifies that narcissism is positively related to some facets of and negatively related to other facets of transformational leadership (Resick et al., 2009). Results examining narcissism and charismatic leadership primarily concur that initially this combination of traits is positive and creates a vision of change and hope. Disagreement however exists on whether the leader can maintain this image, if the effects remain positive or become negative over time, and if all followers are affected in the same way.

Few articles exist where narcissism and leadership styles are investigated together. Narcissism has been investigated with three identified leadership styles, however these studies primarily focus on whether the relationship is positive or negative,

and effects narcissism in concert with the specific leadership style can have on an organization. Research examining the predictive element narcissism has on an individual's chosen leadership style is non-existent.

CHAPTER 3. METHODOLOGY

The purpose of this research study is to identify if a relationship exists between narcissism and leadership styles identified in the full range leadership theory (Avolio & Bass, 1991) while controlling for age, gender, race, and education in years. In this chapter, the research and sub-research questions for this study will be presented and the methodology used to answer those research questions will be discussed.

Research Questions

Three research questions were addressed in this research study, with each research question having four sub-questions. The three research questions and 12 research subquestions for this study are discussed in the following two subsections.

Research Questions

The three research questions for this study are

RQ_1: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Age* (CV), *Gender* (CV), *Race* (CV), and *Education in Years* (CV), explain variations in the *Transformational Leadership Style Index* (DV)?

RQ_2: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Age* (CV), *Gender* (CV), *Race* (CV), and *Education in Years* (CV), explain variations in the *Transactional Leadership Style Index* (DV)?

RQ_3: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Age* (CV), *Gender* (CV), *Race* (CV), and *Education in Years* (CV), explain variations in the *Laissez-Faire Leadership Style Index* (DV)?

Research Subquestions

The 12 research subquestions for this study are

RQ_1SQ_1: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Age* (CV), explain variations in the *Transformational Leadership Style Index* (DV)?

RQ_1SQ_2: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Gender* (CV), explain variations in the *Transformational Leadership Style Index* (DV)?

RQ_1SQ_3: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Race* (CV), explain variations in the *Transformational Leadership Style Index* (DV)?

RQ_1SQ_4: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Education in Years* (CV), explain variations in the *Transformational Leadership Style Index* (DV)?

RQ_2SQ_1: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Age* (CV), explain variations in the *Transactional Leadership Style Index* (DV)?

RQ_2SQ_2: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Gender* (CV), explain variations in the *Transactional Leadership Style Index* (DV)?

RQ_2SQ_3: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Race* (CV), explain variations in the *Transactional Leadership Style Index* (DV)?

RQ_2SQ_4: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Education in Years* (CV), explain variations in the *Transactional Leadership Style Index* (DV)?

RQ_3SQ_1: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Age* (CV), explain variations in the *Laissez-Faire Leadership Style Index* (DV)?

RQ_3SQ_2: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Gender* (CV), explain variations in the *Laissez-Faire Leadership Style Index* (DV)?

RQ_3SQ_3: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Race* (CV), explain variations in the *Laissez-Faire Leadership Style Index* (DV)?

RQ_3SQ_4: To what extent does the *Narcissistic Personality Traits Index* (IV), controlling for *Education in Years* (CV), explain variations in the *Laissez-Faire Leadership Style Index* (DV)?

Research Design and Methodology

Research Design

This study used a quantitative, non-experimental, explanatory, cross-sectional, survey research design. The survey was administered through Qualtrics, a professional

online survey organization, to collect data from a simple random sample of mid- and upper-level managers in United States organizations. Researchers may apply their own personal worldviews that guide the development of the research problems, research questions, and research design. The ontological nature of this study was its concern with the structure of reality that is definable, quantifiable, and measurable. The epistemological assumptions that knowledge is quantifiable and measurable are assigned with a postpositivist perspective, which assumed an objective reality exists that is not the creation of the human mind and is, therefore, independent of human behavior (Crossan, 2003).

Research designs yield a quantitative description of participant responses based on the opinion or attitudes of the participant. The cross-sectional, online survey design in this research study measured mid- and upper-level managers' perspectives about their supervisors regarding narcissistic personality traits and leadership style at one point in time. Phillips (2015) mentioned that the use of online survey tools has increased due to the ease of access to a specific target population of pre-screened participants who have the knowledge and desire to participate in surveys.

Research Methodology

Hierarchical multiple linear regression was used to investigate the relationship between the *Narcissistic Personality Traits Index* (IV) and indexes measuring the leadership styles of the full range leadership theory (Avolio & Bass, 1991), which are the *Transformational Leadership Style Index* (DV), *Transactional Leadership Style Index* (DV), and *Laissez-Faire Leadership Style Index* (DV), controlling for *Age* (CV), G*ender*

(CV), *Race* (CV), and *Education in Years* (CV). SPSS version 23 was utilized to analyze the data.

The research methodology used in this study was appropriate for studies that examine the relationship between predictor and outcome variables because multiple linear regression is a statistical model in which an outcome variable is predicted by two or more predictor variables (Field, 2013). This study examined the effects five predictor variables had on each of three outcome variables using three separate hierarchical multiple linear regression models associated with the three research questions for this study.

Research Assumptions

The assumptions associated with this research design may be divided into three categories (a) theoretical assumptions, (b) topical assumptions, and (c) methodological assumptions.

Theoretical assumptions. The theoretical assumptions related to the full range leadership theory, which assumed that the theory is appropriate for measuring leadership styles and that all leadership styles are encompassed within this theory (Avolio & Bass, 1991).

Topical assumptions. The topical assumptions assumed that participants were able to quantify their supervisor's attitudes, subjective norms, and behaviors regarding narcissism and leadership style.

Methodological assumptions. The methodological assumptions assumed that the multiple linear regression model is appropriate to answer the research questions and that

all of the assumptions for the multiple linear regression model were satisfied. The sampling plan, instrumentation/measures, and data collection discussed in the next three sections suggest that these methodologies will provide data that can be generalizable to the identified population. The section headed "Testing Statistical Model Assumptions" contains a discussion of the assumptions for the multiple linear regression model that were tested.

Population, Sampling Frame, Sample Size, and Sampling Plan

Population

The population for this study was mid- and upper-level managers in United States organizations. Inclusion criteria required participants to (a) currently hold a mid- or upper-level management position, (b) have been in a mid- or upper-level management position for a minimum of one year, (c) have an immediate supervisor the participant has worked under for a minimum of one year, and (d) be employed in the United States.

Chief executive officers and upper-level managers are primary participants in decision-making processes for an organization. In addition, chief executive officers and upper-level managers have been the targeted population in most previously published studies examining narcissism and leadership. Previous research studies have noted that chief executive officers have often not been available as survey participants (Chatterjee & Hambrick, 2007). Therefore, chief executive officers were not the primary targeted population for this study although they were not excluded from the study.

The use of participants employed by all organizations in the United States allows results to be generalizable to the United States population of mid- and upper-level

managers. The selection of mid- and upper-level managers was appropriate because these individuals are closest to chief executive officers, have authority over other individuals, and are influential in organizational decision-making processes.

Sampling Frame

The sampling frame was mid- and upper-level managers in United States organizations who participate in the Qualtrics survey audience. Inclusion criteria required participants to (a) currently hold a mid- to upper-level management position, (b) have been in a mid- to upper-level management position for a minimum of one year, (c) have an immediate supervisor the participant has worked under for a minimum of one year, and (d) be employed in the United States. Qualtrics used a simple random sampling method to select participants matching the inclusion criteria from the Qualtrics survey audience.

Minimum Sample Size

The minimum sample size was determined to be 126 using G*Power 3.1.9.2 with a moderate effect size ($f = 0.15$), a significance level of $\alpha = .05$, a power of .85 ($\beta = .15$), and nine predictor variables (Faul, Erdefelder, Buchner, & Lang, 2009). The input parameter $\alpha = .05$ means that the probability of incorrectly rejecting a true null hypothesis (i.e., making a Type I error) was .05 or for five percent of all possible samples. The input parameter $\beta = .15$ means that the probability of incorrectly accepting a false null hypothesis (i.e., making a Type II error) was 0.15 or for 15 percent of all possible samples. Conversely, the Power of the Test, which in this case is .85 ($1 - \beta$), is the probability of rejecting a false null hypothesis, which will occur in 85 percent of all

possible samples. The input and output data for the G*Power analysis appears in Table 1 and plots of the central and non-central distributions are provided in Figure 1.

Table 1
*Protocol Parameters of Power Analyses for G*Power 3.1.9.2 Used to Determine the Minimum Sample Size.*

F tests - Linear multiple regression: Fixed model, R^2 deviation from zero		
Analysis:	A priori: Compute required sample size	
Input:	Effect size f^2	= 0.15
	α err prob	= 0.05
	Power (1-β err prob)	= 0.85
	Number of predictors	= 9
Output:	Noncentrality parameter λ	= 18.9000000
	Critical F	= 1.9615262
	Numerator df	= 9
	Denominator df	= 116
	Total sample size	= 126
	Actual power	= 0.8535227

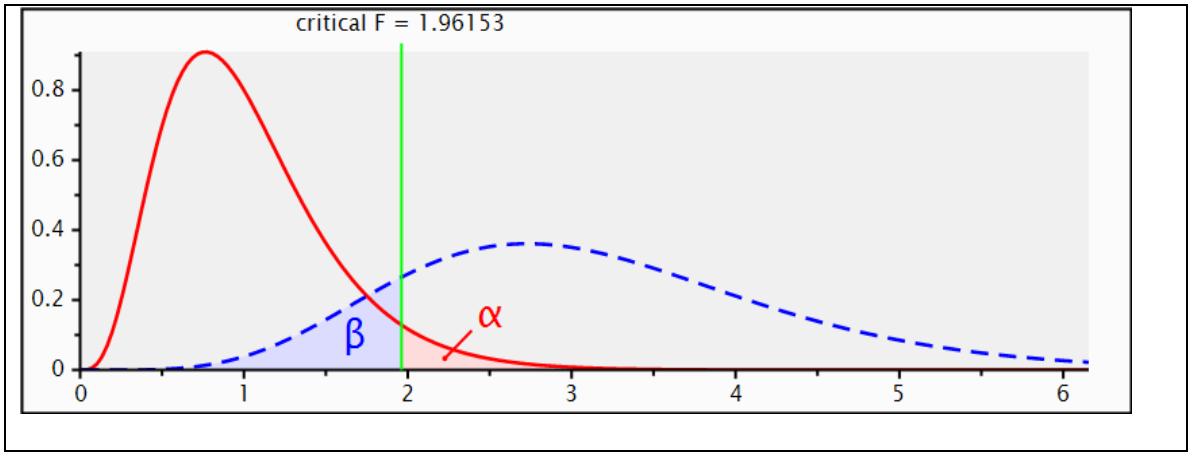

Figure 1
Plot of central and non-central distributions from G*Power 3.1.9.2 based on the study's parameters.

Sampling Plan

Qualtrics was retained to collect 130 responses from participants who satisfied the inclusion criteria. A sample size marginally above the required minimum size of 126 was

selected in the event of issues with the data (e.g., outliers, missing data, inconsistent answers). The survey instrument used by Qualtrics contained several measures to ensure participants met the criteria for participation and spent adequate time reading and answering questions. Due to the inclusion of these survey quality-control measures, the sample size was adequate for this research study. Qualtrics used a simple random sampling method targeting mid- and upper-level managers in the Qualtrics survey audience.

Instrumentation/Measures

The measurement instrument utilized in this study combined the questions from two validated survey instruments: (a) the Narcissistic Personality Inventory, short version (NPI-16), which consists of 16 statement pairs, and (b) the Multifactor Leadership Questionnaire (MLQ) (5-X Rater Form), which has 45 questions. The Narcissistic Personality Inventory, short version (NPI-16) (Ames, Rose, & Anderson, 2006) measures social/personality psychology narcissism and has been used primarily in non-clinical settings to identify the narcissistic personality trait of subjects. The Multifactor Leadership Questionnaire (MLQ) (5-X Rater Form) (Avolio & Bass, 2004) measures leader behaviors defined by the nine factor model of the full range leadership theory.

Validity and Reliability

Validity provides evidence that an instrument's questions agree with the constructs they were intended to measure. Reliability measures whether an instrument is able to provide consistent results when the same constructs are tested under different conditions (Field, 2013). Field (2013) states that Cronbach's alpha (α) is the most common measure of scale for reliability, with acceptable values of Cronbach's α being

those that equal or exceed 0.70. Field (2013) further noted that research indicates that values below 0.7 are acceptable when measuring diverse psychological constructs. Ames et al. (2006) conducted five separate studies to validate their proposed NPI-16 survey instrument. The Cronbach's alpha for the five studies were (the Cronbach's alpha for the corresponding NPI-40, if provided, appear in parentheses) $\alpha = 0.72$ (0.84), 0.68, 0.69, 0.69 (0.83), and 0.65. Muenjohn, et. al. (2008) tested the MLQ utilizing Confirmatory Factor Analysis, which produced a Cronbach's $\alpha = 0.86$. Both instruments demonstrated validity and reliability.

Measures

Narcissistic Personality Inventory-16. Ames, et. al. (2006) proposed a shorter version of the original 40-item Narcissistic Personality Inventory (Raskin & Terry, 1988), noting that the original version's length likely deterred participants from completing the survey. Ames et al. (2006) did note that they preserved Raskin's and Terry's factor structure, including item pairs from the original four factors

- Exploitativeness/entitlement
- Leadership/authority
- Superiority/arrogance
- Self-absorption/self-admiration.

The NPI-16 consists of 16 pairs of statements, with each pair containing one narcissistic statement and one non-narcissistic statement. Participants were asked to rate their immediate supervisor by choosing one statement from each statement pair that best

described their immediate supervisor's narcissistic personality trait. Examples of question pairs as they are exactly stated in the NPI-16 include

- I like to be the center of attention/I prefer to blend in with the crowd.
- I am an extraordinary person/I am much like everybody else.
- I am going to be a great person/I hope I am going to be successful.

The responses to each pair of statements were assigned a value: narcissistic responses were assigned a value of 1 and non-narcissistic responses were assigned a value of 0.

Multifactor Leadership Questionnaire (5-X) Rater Form. The Multifactor Leadership Questionnaire (MLQ 5-X Short Rater Form) classifies and measures leadership and effectiveness behaviors identified in previous research to be strongly related to organizational and individual success (Avolio & Bass, 2004). The MLQ 5-X Rater Form is a 45-item instrument based on a 5-point Likert scale (ranging from 0 = *not at all* to 4 = *frequently, if not always*) that requires participants to analyze how frequently, or to what degree, they have observed their supervisor engaging in particular behaviors.

The MLQ 5-X Short Rater Form survey instrument consists of 36 items measuring constructs of the nine-factor model of the full range leadership theory (a) idealized influence-attributed, (b) idealized influence-behavior, (c) inspirational motivation, (d) intellectual stimulation, (e) individualized consideration, (f) contingent reward, (g) management-by-exception-active, (h) management-by-exception-passive, and (i) laissez-faire leadership and nine items measuring leadership effectiveness and follower satisfaction. Examples of

questions as they are exactly stated in the Multifactor Leadership Questionnaire include

- I spend time teaching and coaching.
- I instill pride in others for being associated with me.
- I keep track of all mistakes.
- I avoid making decisions.

Justification for Chosen Instrument

The combination of the two validated survey instruments is appropriate to examine the topic of this research study. The Narcissistic Personality Inventory is the most widely used measure of narcissism, while the NPI-16 produces a pattern of results consistent with those of the original 40-item version (Gentile et al., 2013). The Multifactor Leadership Questionnaire is also a widely used instrument that captures the factor constructs of the full range leadership theory (Muenjohn et al., 2008). The instruments were chosen due to their widespread use, reliability, validity, and appropriateness for measuring narcissism and leadership styles.

Permission to Use Survey Instruments

Permission for the use of the Narcissistic Personality Inventory is a general permission for use in non-commercial research and educational purposes (PsycTESTS, 2016). Permission for the use of the Multifactor Leadership Questionnaire was obtained from Mind Garden, the current publisher of the instrument.

Data Collection

This study utilized Qualtrics, a professional online survey company, to collect the data. Qualtrics provides access to a large, demographically-screened participant pool that

provided the researcher with externally valid samples that are reasonably focused (Brandon, Long, Loraas, Mueller-Phillips, & Vansant, 2014). Qualtrics'® service allows a researcher to create the survey instrument online or upload the survey instrument to its servers. A project manager is assigned by Qualtrics to administer the survey to participants based on inclusion criteria provided by the researcher. The project manager collaborated with the researcher to (a) qualify participants based on the stated inclusion criteria, (b) insert measures that ensure participants are engaged in responding to the questions, and (c) ensure that participants answered all questions. Qualtrics guaranteed that only responses completed in a minimum of five minutes and a maximum of 10 minutes would be included to minimize the occurrence of speed answering where the participant does not actually read or think about their responses to the questions.

Qualtrics launched the survey by sending notifications to randomly selected participants identified as eligible based on inclusion criteria. Qualtrics provides monetary incentives for participants to complete surveys. Participants are required to read and agree to the informed consent prior to entry into the survey instrument. The service did not coerce or otherwise harass participants to take the survey. The sampling frame for panelists was mid- to upper-level managers of organizations located in the United States.

Data Analysis—Testing Statistical Model Assumptions

The data analysis methodology utilized in this study was hierarchical multiple linear regression. Hierarchical multiple linear regression is an appropriate method to identify the strength of the relationships between the multiple predictor variables and the three outcome variables for this study. Nathans, Oswald, and Nimon (2012) stated that

multiple linear regression allows the researcher to examine the role that multiple predictor variables play in accounting for variance in a single outcome variable. Three multiple linear regression analyses corresponding with the three research questions were used to regress the predictors onto each of the three outcome variables separately so that the hypotheses can be tested regarding model fit and to determine the statistically significant regression coefficients for each of the three research questions and associated 12 subresearch questions.

Data analysis were performed utilizing SPSS version 23. Prior to performing multiple linear regression, all data were examined for missing values. No missing data were identified. Thus, no adjustments to the data were required. Next, the data were tested to confirm that the nine assumptions of multiple linear regression (Field, 2013; Laerd.com, 2016) were satisfied. The nine assumptions of multiple linear regression are

1. The sample data used in this research study were collected using random sampling.
2. The values of the dependent variable are based upon a continuous measurement scale (either interval or ratio measurement).
3. The values of the predictor (independent) variables are based upon a continuous measurement scale (either interval or ratio measurement) or are categorical variables (either nominal or ordinal measurement scale).
4. Consecutive (first-order) error terms (residuals) are independent of each other; that is, no first-order serial correlation (autocorrelation) exists between consecutive error terms (residuals).

5. The dependent and all independent variables have a linear relationship and each pair of the dependent and independent variables is linearly related.
6. The error variances are homoscedastic.
7. An absence of multicollinearity exists among the independent variables.
8. An absence of significant outliers, high leverage points, and highly influential points exists among the variables.
9. The residuals are approximately normally distributed.

The statistical methods used to test each of these assumptions are discussed in the nine subsections that follow.

Data Collected Using a Random Sample

The assumption that the sample data used in this research study were collected using random sampling was tested by examining the sampling plan followed by Qualtrics, which is the firm that conducted the data collection (Field, 2013; Laerd Statistics, 2016).

Continuous Dependent Variable

The assumption that the value of the dependent variables are based upon a continuous measurement scale (either interval or ratio measurement) was tested by inspecting the measurement properties of the three dependent variables (Field, 2013; Laerd Statistics, 2016).

Continuous or Categorical Independent Variables

The assumption that the values of the predictor (independent) variables are based upon a continuous measurement scale (either interval or ratio measurement) or are

categorical variables (either nominal or ordinal measurement scale) was tested by inspecting the measurement properties of each of the independent variables (Field, 2013; Laerd Statistics, 2016).

Independence of Residuals

The assumption that the consecutive (first-order) error terms (residuals) are independent of each other (that is, no first-order serial correlation (autocorrelation) exists between consecutive error terms (residuals) was tested using the Durbin-Watson test for first-order serial correlation (Field, 2013; Laerd Statistics, 2016). The hypotheses for the Durbin-Watson test are

H_0: $|\rho| = 0$

H_A: $|\rho| > 0$

where $|\rho|$ is the absolute value of the population autocorrelation coefficient.

The Durbin-Watson test is conducted using the Durbin-Watson statistic, *d*, which is compared with critical values of *d* found in a Durbin-Watson table of critical values. The Durbin-Watson statistic *d* has values in the range $0 < d < 4$. When *d* is substantially less than 2, the residuals are positively autocorrelated. When *d* is substantially greater than 2, the residuals are negatively autocorrelated. The Durbin-Watson statistic *d* can be computed by SPSS when running a multiple linear regression.

The parameters for the Durbin-Watson table of critical values are (a) the sample size, (b) the number of predictor variables in the model, and the (c) the level of significance α. The Durbin-Watson table of critical values has two values for each set of

parameters: (a) a value d_L and (b) a value d_U, where d_L is a lower bound for *d* and d_U is an upper bound for *d*.

The Durbin-Watson hypotheses are tested as follows:

1. For a value of $d < 2$ (potential positive autocorrelation), the null hypothesis H_0: $|\rho| = 0$ is
   a. Supported when $d > d_U$.
   b. Not supported when $d < d_L$.
   c. When $d_L < d < d_U$ the test is inconclusive.
2. For a value of $d > 2$ (potential negative autocorrelation), the null hypothesis H_0: $|\rho| = 0$ is
   a. Supported when $(4 - d) > d_U$.
   b. Not supported when $(4 - d) < d_L$.
   c. When $d_L < (4 - d) < d_U$ the test is inconclusive.

Some descriptions of the Durbin-Watson test suggest rule-of-thumb hypothesis testing criteria. They state that the null hypothesis H_0: $|\rho| = 0$ is supported when *d* is close to 2, with suggestions for the definition of close to 2 varying from $1.5 < d < 2.5$ to $1.0 < d < 3.0$. Since tables of Durbin-Watson critical values exist, the null hypothesis H_0: $|\rho| = 0$ was tested in this study using the Durbin-Watson critical-values table.

Linear Relationship Between Dependent and Independent Variables

The linearity assumptions for multiple linear regression tested for this research study were that (Field, 2013; Laerd Statistics, 2016)

1. The dependent and all independent variables have a linear relationship and

2. Each pair of the dependent and independent variables is linearly related.

The first assumption was tested using a scatterplot of the studentized residuals against the unstandardized predicted values. The second assumption was tested using

1. Partial regression plots between each independent variable and the dependent variable (ignoring the categorical variables), and
2. Pearson's correlation coefficients for each pair of independent variable and the dependent variable (ignoring the categorical variables).

The hypotheses associated with the first linearity assumption are

H_0: $|\rho| = 0$

H_A: $|\rho| > 0$

where $|\rho|$ is the absolute value of the population cumulative linear correlation coefficient for the dependent variable and all of the independent variables. The hypotheses associated with the second linearity assumption are

H_0: $|\rho_k| = 0$

H_A: $|\rho_k| > 0$

where $|\rho_k|$ is the absolute value of the population linear correlation coefficient for the k^{th} pair of independent and dependent variables.

The scatterplot and partial regression plots are not tests of statistical inference even though they were used to test the hypotheses associated with the two linearity assumptions. Rather they involve being able to subjectively evaluate a series of graphs. The scatterplot and partial regression plots are two-dimensional graphs that have a series of dots whose location is determined by the x-y coordinates of the plotted data points.

The null hypotheses for linearity will be supported if the plots display a pattern of dots that form a horizontal band. Non-linear plots are ones for which the pattern of dots (a) does not approximate a straight line with either a positive or negative slope or (b) approximates a straight line that is parallel to the x-axis. Approximate means that the dots can be rather widely scattered but do form what appears to be a cluster with some linear direction.

In contrast to the scatterplot and partial regression plots, Pearson's correlation coefficients do allow tests of statistical inference. The test of the null hypothesis H_0: $|\rho_k| = 0$ for each of the k pairs of independent and dependent variables (excluding the categorical variables) will utilize the relationships

1. H_0: $|\rho_k| = 0$ is supported for $p > \alpha$.
2. H_0: $|\rho_k| = 0$ is not supported for $p < \alpha$.

where the level of significance used is $\alpha = .05$.

Homoscedasticity of Error Variances

The homoscedasticity assumption for multiple linear regression tested for this research study was that the residuals are equal for all values of the predicted dependent variable (Field, 2013; Laerd Statistics, 2016). The assumption for heteroscedasticity was tested for this research study using the same scatterplot of the studentized residuals against the unstandardized predicted values that was used for testing the assumption that the dependent and all independent variables have a linear relationship. The hypotheses for the homoscedasticity assumption are

H_0: $\sigma^2_i = \sigma^2$

$H_A: \sigma^2_i \neq \sigma^2$

for i = 1, 2, …, n where (a) n is the sample size, (b) σ^2_i is the variance for the i^{th} observation, and (c) σ^2 is the constant variance for all observations. The null hypothesis $H_0: \sigma^2_i = \sigma^2$ describes the case of homoscedasticity and the alternative hypothesis $H_A: \sigma^2_i \neq \sigma^2$ describes the case of heteroscedasticity.

The hypotheses for the homoscedasticity assumption were tested using a visual examination of the scatterplot of the studentized residuals against the unstandardized predicted values similar to how we tested the linearity assumption. However, to test the homoscedasticity assumption, the null hypothesis $H_0: \sigma^2_i = \sigma^2$ is supported for the case when the pattern made by the residuals does not increase or decrease across the predicted values (i.e., the points of the plot will exhibit no pattern and will be approximately constantly spread). The null hypothesis $H_0: \sigma^2_i = \sigma^2$ is not supported for the case when the pattern made by the residuals increases or decreases across the predicted values (i.e., the points of the plot will exhibit a pattern that may appear as an increasing funnel, a decreasing funnel, or a fan shape). When the null hypothesis $H_0: \sigma^2_i = \sigma^2$ is supported, the assumption of homoscedasticity is satisfied. However, when the null hypothesis $H_0: \sigma^2_i = \sigma^2$ is not supported, the assumption of homoscedasticity is not satisfied resulting in what is called heteroscedasticity (Field, 2013; Laerd Statistics, 2016).

Absence of Multicollinearity Between Independent Variables

Another assumption for multiple linear regression that was tested for this research study was the absence of multicollinearity (a) between each of the k pairs of the non-

categorical independent variables and (b) among all of the independent variables, which was tested using

1. Pearson's correlation coefficients were used to test for multicollinearity between each pair of the independent variables.
2. Tolerance and Variance Inflation Factors (VIFs) were used to test for multicollinearity among all of the independent variables.

The hypotheses tested for the absence of multicollinearity between the independent variables assumption are

H_0: $|\rho_k| = 0$

H_A: $|\rho_k| \neq 0$

where ρ_k is the absolute value of the population linear correlation coefficient for the k^{th} pair of independent variables.

Pearson's correlation coefficients are tests of statistical inference. The test of the null hypothesis H_0: $|\rho_k| = 0$ for the k^{th} pair of non-categorical independent variables will utilize the relationships

1. H_0: $|\rho_k| = 0$ is supported for $p > \alpha$.
2. H_0: $|\rho_k| = 0$ is not supported for $p < \alpha$.

where ρ_k is the absolute value of the population linear correlation coefficient for the k^{th} pair of independent variables and the level of significance used is $\alpha = .05$.

Caution must be exercised in interpreting the results of testing hypotheses to determine whether or not a linear relationship exists between a pair of variables because results that do not support the null hypothesis do not provide any information about the

strength of the linear relationship. That is, the null hypothesis H_0: $|\rho_k| = 0$ may be supported even in the case where the linear relationship is weak. For that reason, a rule of thumb that is widely used is that the multicollinearity assumption (for which the null hypothesis is H_0: $|\rho_k| = 0$) is satisfied whenever the Pearson's correlation coefficient is less than about .7 (Field, 2013).

A second test that was used for the absence of multicollinearity between the independent variables assumption uses what are called colinearity statistics: Tolerance and the Variance Inflation Factor (VIF) (Field, 2013; Laerd Statistics, 2016). Each independent variable has a Tolerance and Variance Inflation Factor generated by SPSS. Note that only one of these values needs to be inspected because the Variance Inflation Factor is simply the reciprocal of the Tolerance (i.e., 1 divided by the Tolerance). In this research study, the Tolerance value will be used to test the null hypothesis H_0: $|\rho| = 0$.

Using Tolerance values, the null hypothesis H_0: $|\rho| = 0$ is supported when $.1 < T < 1.0$, where T is the Tolerance value. Conversely, the null hypothesis H_0: $|\rho| = 0$ is not supported when $T < .1$, where T is the Tolerance value

Absence of Significant Outliers, High Leverage Points, and Highly Influential Points

The multiple linear regression model has a set of assumptions about values of the dependent variable that were tested for this research study, which was the absence among the dependent variable data points of (a) significant outliers, (b) high leverage points, and (c) highly influential points (Field, 2013; Laerd Statistics, 2016). Data points that are significant outliers, high leverage points, or highly influential points are usually

detrimental to the model fit or ability to generalize the regression equation from the sample to the population.

Outliers. Outliers are observed values of the dependent variable that are located far away from the predicted values generated by the fitted regression equation (Field, 2013; Laerd Statistics, 2016). That is, outliers are values of the dependent variable that are considerably larger or smaller than the predicted values. The hypotheses for the absence of significant outliers are

H_0: $\gamma_i < \pm 3\sigma$

H_A: $\gamma_i > \pm 3\sigma$

for i = 1, 2, …, n, where (a) n is the sample size, (b) γ_i is the standardized residual for the i^{th} data point, and (c) σ is the standard deviation for standardized residual.

SPSS generates a Casewise Diagnostics table that identifies all standardized residuals that fail to support the null hypothesis H_0: $\gamma_i < \pm 3\sigma$. The null hypothesis H_0: $\gamma_i < \pm 3\sigma$ regarding the absence of significant outliers is supported if all of the standardized residuals satisfy the relationship $\gamma_i < \pm 3\sigma$. Conversely, the null hypothesis H_0: $\gamma_i < \pm 3\sigma$ is not supported for any of the standardized residuals that satisfy the relationship $\gamma_i > \pm 3\sigma$. The data points for any observations of the dependent variable that are identified as significant outliers are usually discarded from the sample.

High Leverage Points. High leverage points are values of the independent variables that are abnormally large or small (Field, 2013; Laerd Statistics, 2016). High leverage points must be avoided because they can cause the regression line (or plane) to

shift away from the line's correct population position. The hypotheses for the assumption of absence of high leverage points are

H_0: $Lev(x_{ij}) < C$

H_A: $Lev(x_{ij}) > C$

for i = 1, 2, …, n and j = 1, 2, …, k, where (a) n is the sample size, (b) k is the number of predictor variables, (c) $Lev(x_{ij})$ is the leverage value generated by SPSS for the i^{th} value of the k^{th} independent variable, and (d) C is a leverage-point critical value, where C = .2 for safe values and .5 for risky values. Thus, the null hypothesis H_0: $Lev(x_{ij}) < C$ is supported that a data point for an independent variable x_{ij} is not a high leverage point if $Lev(x_{ij}) < .2$. The null hypothesis H_0: $Lev(x_{ij}) < C$ is supported that a data point for an independent variable x_{ij} is at risk as a high leverage point if $.2 < Lev(x_{ij}) < .5$. Finally, the null hypothesis H_0: $Lev(x_{ij}) < C$ is not supported that a data point for an independent variable x_{ij} is not a high leverage point or at risk as a high leverage point if $Lev(x_{ij}) > .5$.

Highly Influential Points. Highly influential points are data values that may be both outliers and high leverage points and that can therefore generate potentially pathological parameter estimates (Field, 2013; Laerd Statistics, 2016). The hypotheses for the assumption of the absence of highly influential points are

H_0: $Cook(x_{ij}) < 1$

H_A: $Cook(x_{ij}) > 1$

for i = 1, 2, …, n and j = 1, 2, …, k, where (a) n is the sample size, (b) k is the number of predictor variables, (c) $Cook(x_{ij})$ is the Cook's Distance highly-influential-point value generated by SPSS for the i^{th} value of the k^{th} independent variable, and (d) 1 is a highly-

influential-point critical value. Thus, the null hypothesis H_0: $Cook(x_{ij}) < 1$ is supported that a data point for an independent variable x_{ij} is not a highly influential point if $Cook(x_{ij}) < 1$. Conversely, the null hypothesis H_0: $Lev(x_{ij}) < 1$ is not supported that a data point for an independent variable x_{ij} is not a highly influential point if $Cook(x_{ij}) > 1$.

Normally Distributed Residuals

Another assumption for multiple linear regression that was tested for this research study was that the error terms (residuals) were normally distributed. The hypotheses associated with testing the assumption that the error terms are normally distributed are

H_0: $F(\varepsilon_i) = N(\mu, \sigma^2)$

H_A: $F(\varepsilon_i) \neq N(\mu, \sigma^2)$

for i = 1, 2, …, n, where (a) n is the sample size, (b) ε_i is the value of the i^{th} population error term, (c) $F(\varepsilon_i)$ is the cumulative probability distribution functions for population error term ε_i, and (d) $N(\mu, \sigma^2)$ is the probability distribution function for a normal probability distribution with a mean μ and a variance σ^2 (Field, 2013; Laerd Statistics, 2016).

The assumption that the error terms are normally distributed was tested using five statistical analyses: (a) a histogram of the regression standardized residual with a superimposed normal distribution curve, (b) a normal P-P plot of the regression standardized residual, (c) a normal Q-Q plot of the studentized residuals, (d) a Kolmogorov-Smirnov goodness-of-fit test, and (e) a Shapiro-Wilks goodness-of-fit test (Field, 2013; Laerd Statistics, 2016).

The histogram, normal P-P plot, and normal Q-Q plot are subjective tests that involve inspection of graphs rather than statistical inference. In contrast, the Kolmogorov and Shapiro-Wilk goodness-of-fit tests are tests of statistical inference. For the latter two tests, a significance level was used of $\alpha = .05$.

Data Analysis—Testing the Hypotheses

Hierarchical multiple linear regression was utilized to analyze the data. Three separate analyses were run with two models each to test the hypotheses for each of the three research questions using the forced entry method to enter the predictor variables. The first model for each research question included the independent variable *Narcissistic Personality Traits Index* and one of the dependent variables *Transformational Leadership Style Index*, *Transactional Leadership Style Index*, or *Laissez-Faire Leadership Style Index*. The second model for each research question included the independent variables *Age*, *Gender*, *Race*, *Education in Years*, and one of the dependent variables *Transformational Leadership Style Index*, *Transactional Leadership Style Index*, or *Laissez-Faire Leadership Style Index*. The analyses are summarized in Table 2.

Table 2
Variables Included in Each Regression Analysis and Models

Research Question	Variables	Model
RQ1	Transformational Leadership Style Index (DV)	1, 2
	Narcissistic Personality Traits Index (IV)	1, 2
	Age (CV)	2
	Gender (CV)	2
	Education in Years (CV)	2
	Race-African American (CV)	2
	Race-American Indian or Alaska Native (CV)	2
	Race-Asian (CV)	2
	Race-Native Hawaiian or Other Pacific Islander(CV)	2
	Race-Two or More Races (CV)	2
RQ2	Transactional Leadership Style Index (DV)	1, 2
	Narcissistic Personality Traits Index (IV)	1, 2
	Age (CV)	2
	Gender (CV)	2
	Education in Years (CV)	2
	Race-African American (CV)	2
	Race-American Indian or Alaska Native (CV)	2
	Race-Asian (CV)	2
	Race-Native Hawaiian or Other Pacific Islander(CV)	2
	Race-Two or More Races (CV)	2
RQ3	Laissez-Faire Leadership Style Index (DV)	1, 2
	Narcissistic Personality Traits Index (IV)	1, 2
	Age (CV)	2
	Gender (CV)	2
	Education in Years (CV)	2
	Race-African American (CV)	2
	Race-American Indian or Alaska Native (CV)	2
	Race-Asian (CV)	2
	Race-Native Hawaiian or Other Pacific Islander(CV)	2
	Race-Two or More Races (CV)	2

Multiple linear regression was used to test the hypotheses for each of the three research questions and their associated research sub-questions. The multiple linear regression model for the populations in this research study are expressed using statistical notation as (Field, 2013; Laerd Statistics, 2016)

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} + \beta_6 X_{6i} + \beta_7 X_{7i} + \beta_8 X_{8i} + \beta_9 X_{9i} + \varepsilon_i$$

Where

1. $i = 1, 2, \ldots, N$, where N is the size of the population.
2. Y_i is i^{th} value of the population dependent variable, which is: (a) for RQ_1 the *Transformational Leadership Style Index*, (b) for RQ_2 the *Transactional Leadership Style Index*, and (c) for RQ_3 the *Laissez-Faire Leadership Style Index*.
3. β_0 is the population regression coefficient for the y-intercept.
4. β_1 is the population regression coefficient for the i^{th} value of the independent variable *Narcissistic Personality Traits Index* (X_1).
5. β_2 is the population regression coefficient for the i^{th} value of the control variable *Age* (X_2).
6. β_3 is the population regression coefficient for the i^{th} value of the control variable *Gender* (X_3).
7. β_4 is the population regression coefficient for the i^{th} value of the control variable *Education in Years* (X_4).
8. β_5 is the population regression coefficient for the i^{th} value of the dummy control variable *Race-African American* (X_5).

9. β_6 is the population regression coefficient for the i^{th} value of the dummy control variable *Race-American Indian or Alaska Native* (X_6).
10. β_7 is the population regression coefficient for the i^{th} value of the dummy control variable *Race-Asian* (X_7).
11. β_8 is the population regression coefficient for the i^{th} value of the dummy control variable *Race-Native Hawaiian or Other Pacific Islander* (X_8).
12. β_9 is the population regression coefficient for the i^{th} value of the dummy control variable *Race-Two or More Races* (X_9).
13. ε_i is the i^{th} value of the population error term, which is computed as ($\varepsilon_i = \hat{Y}_i - Y_i$), where $\hat{Y}_i$ is the i^{th} value of the dependent variable computed using the regression equation for the population, which is: (a) for RQ_1 the *Transformational Leadership Style Index*, (b) for RQ_2 the *Transactional Leadership Style Index*, and (c) for RQ_3 the *Laissez-Faire Leadership Style Index*.

Testing the hypotheses associated with a multiple linear regression model involved taking a random sample from the population under study and using the sample data values to estimate the population parameters. The multiple linear regression model for the samples in this research study is expressed using statistical notation as (Field, 2013; Laerd Statistics, 2016)

$$y_i = b_0 + b_1x_{1i} + b_2x_{2i} + b_3x_{3i} + b_4x_{4i} + b_5x_{5i} + b_6x_{6i} + b_7x_{7i} + b_8x_{8i} + b_9x_{9i} + e_i$$

where

1. $i = 1, 2, \ldots, n$, where n is the size of the sample.

2. y_i is i^{th} value of the sample dependent variable, which is: (a) for RQ_1 the *Transformational Leadership Style Index*, (b) for RQ_2 the *Transactional Leadership Style Index*, and (c) for RQ_3 the *Laissez-Faire Leadership Style Index*.
3. b_0 is the sample regression coefficient for the y-intercept.
4. b_1 is the sample regression coefficient for the i^{th} value of the independent variable *Narcissistic Personality Traits Index* (x_1).
5. b_2 is the sample regression coefficient for the i^{th} value of the control variable *Age* (x_2).
6. b_3 is the sample regression coefficient for the i^{th} value of the control variable *Gender* (x_3).
7. b_4 is the sample regression coefficient for the i^{th} value of the control variable *Education in Years* (x_4).
8. b_5 is the sample regression coefficient for the i^{th} value of the dummy control variable *Race-African American* (x_5).
9. b_6 is the sample regression coefficient for the i^{th} value of the dummy control variable *Race-American Indian or Alaska Native* (x_6).
10. b_7 is the sample regression coefficient for the i^{th} value of the dummy control variable *Race-Asian* (x_7).
11. b_8 is the sample regression coefficient for the i^{th} value of the dummy control variable *Race-Native Hawaiian or Other Pacific Islander* (x_8).

12. b_9 is the sample regression coefficient for the i^{th} value of the dummy control variable *Race-Two or More Races* (x_9).

13. e_i is the i^{th} value of the sample error term, which is computed as ($e_i = \hat{y}_i - y_i$), where $\hat{y}_i$ is the i^{th} value of the dependent variable computed using the regression equation for the sample, which is: (a) for RQ_1 the *Transformational Leadership Style Index*, (b) for RQ_2 the *Transactional Leadership Style Index*, and (c) for RQ_3 the *Laissez-Faire Leadership Style Index*.

Hypotheses for RQ_1

The hypotheses for RQ_1 and the four associated RQ_1SQs using descriptive notation are

H_0: There is not a statistically significant relationship between the *Narcissistic Personality Traits Index* (IV) and the *Transformational Leadership Style Index* (DV), controlling for *Age*, (CV), *Gender* (CV), *Race* (CV), and *Education in Years* (CV).

H_A: There is a statistically significant relationship between the *Narcissistic Personality Traits Index* (IV) and the *Transformational Leadership Style Index* (DV), controlling for *Age*, (CV), *Gender* (CV), *Race* (CV), and *Education in Years* (CV).

The hypotheses for RQ_1 and the four associated RQ_1SQs using statistical notation are for the multiple linear regression model discussed previously. The overall predictive validity of the multiple linear regression model for RQ_1 (i.e., that at least one of the

population regression coefficients $\beta \neq 0$) was tested for statistical significance using the following null and alternative hypotheses and a level of significance of $\alpha = 0.05$

H_0: $\rho^2 = 0$

H_A: $\rho^2 > 0$

where ρ^2 is the population coefficient of determination. Testing the overall predictive validity of the multiple linear regression model is also sometimes called testing for the model fit. Model fit tests whether the multiple linear regression model is statistically significantly better at predicting the outcome than simply using the arithmetic mean of the outcome variable values.

If the above null hypothesis (H_0: $\rho^2 = 0$) is supported, the multiple linear regression model has no predictive validity (i.e., all of the population regression coefficients $\beta_k = 0$) and no further analysis is warranted. If the above null hypotheses (H_0: $\rho^2 = 0$) is not supported, each of the population regression coefficients will be tested to determine which of them are statistically significant predictors using the following null and alternative hypotheses and a level of significance of $\alpha = 0.05$

H_0j: $\beta_j = 0$

H_Aj: $\beta_j \neq 0$

For j = 0, 1, 2, …,9 and where

1. β_0 is the population regression coefficient for the y-intercept.
2. β_1 is the population regression coefficient for the i^{th} value of the independent variable the *Narcissistic Personality Traits Index* (X_1).

3. β_2 is the population regression coefficient for the i^{th} value of the control variable *Age* (X_2).
4. β_3 is the population regression coefficient for the i^{th} value of the control variable *Gender* (X_3).
5. β_4 is the population regression coefficient for the i^{th} value of the control variable *Education in Years* (X_4).
6. β_5 is the population regression coefficient for the i^{th} value of the dummy control variable *Race-African American* (X_5).
7. β_6 is the population regression coefficient for the i^{th} value of the dummy control variable *Race-American Indian or Alaska Native* (X_6).
8. β_7 is the population regression coefficient for the i^{th} value of the dummy control variable *Race-Asian* (X_7).
9. β_8 is the population regression coefficient for the i^{th} value of the dummy control variable *Race-Native Hawaiian or Other Pacific Islander* (X_8).
10. β_9 is the population regression coefficient for the i^{th} value of the dummy control variable *Race-Two or More Races* (X_9).

When testing the overall predictive validity of the multiple linear regression model, which is also sometimes called the model fit, values are generated by SPSS that provide useful information for interpreting the results. These include values for *R*, R^2, and adjusted R^2. The values of *R* are the multiple correlation coefficients that measure the linear relationship between the predictor variables and the outcome variable (Field, 2013). The values of R^2, the coefficient of determination, measure the proportion of the

variability in the outcome variable that is explained by the predictor variables (Field, 2013). The adjusted R^2 is the R^2 value that has been adjusted to reflect the influence the predictor variables have on the R^2 value (Field, 2013).

The value of adjusted R^2 is always less than or equal to the value of R^2. Both R^2 and the adjusted R^2 values indicate how many data points fall on or near the line or plane generated by the linear regression equation (Field, 2013; Laerd Statistics, 2016). The value of R^2 assumes that all of the predictor variables explain the variability in the outcome or predictor variable. In contrast, the value of the adjusted R^2 indicates the percentage of the variability in the outcome variable explained by the subset of predictor variables that explain the variability in the outcome variable (i.e., the predictor variables that are statistically significant predictors). Generally, predictor variables that are not good predictors of the variation in the outcome variable reduce the value of adjusted R^2. Thus, adding poor predictor variables to a multiple linear regression equation reduces the adjusted R^2 value (Field, 2013).

Note that whether or not the y-intercept is statistically significant is meaningless in terms of interpreting the multiple linear regression results because the y-intercept is simply the arithmetic mean of the outcome or dependent variable.

Hypotheses for RQ_2

The hypotheses for RQ_2 and the four associated RQ_2SQs using descriptive notation are

H_0: There is not a statistically significant relationship between the *Narcissistic Personality Traits Index* (IV) and the *Transactional Leadership Style Index* (DV),

controlling for *Age*, (CV), *Gender* (CV), *Race* (CV), and *Education in Years* (CV).

H_A: There is a statistically significant relationship the *Narcissistic Personality Traits Index* (IV) and the *Transactional Leadership Index* (DV), controlling for *Age*, (CV), *Gender* (CV), *Race* (CV), and *Education in Years* (CV).

The hypotheses for RQ_2 and the four associated RQ_2SQs using statistical notation use the multiple linear regression model discussed previously and are identical to those for RQ_1 as discussed in the previous section.

Hypotheses for RQ_3

The hypotheses for RQ_3 and the four associated RQ_3SQs using descriptive notation are

H_0: There is not a statistically significant relationship between the *Narcissistic Personality Traits Index* (IV) and the *Laissez-Faire Leadership Style Index* (DV), controlling for *Age*, (CV), *Gender* (CV), *Race* (CV), and *Education in Years* (CV).

H_A: There is a statistically significant relationship between the *Narcissistic Personality Traits Index* (IV) and the *Laissez-Faire Leadership Style Index* (CV), controlling for *Age*, (CV), *Gender* (CV), *Race* (CV), and *Education in Years* (CV).

The hypotheses for RQ_3 and the four associated RQ_3SQs using statistical notation use the multiple linear regression model discussed previously and are identical to those for RQ_1 as discussed previously.

Ethical Considerations

The primary ethical considerations of this study include informing participants about the nature and contents of the study, protecting participant privacy and anonymity, data storage, and potential harm to participants. The research design of this study minimized these identified risks. Entry into the study required participants to read and agree to the informed consent, adhering to all Capella University IRB practices. Administration of the survey by Qualtrics ensured anonymity as no participant identifying information (name, company, etc.) was included in the results. The Qualtrics team did not coerce or otherwise require participants in their survey audience to complete this survey, nor were participants manipulated into completing the survey. Last, all participants were required to agree to the informed consent prior to participating in the survey. Data for this study will be stored on the researcher's password-protected, encrypted, personal computer for seven years, at which time the data will be destroyed.

CHAPTER 4. RESULTS

The purpose of this study is to determine if narcissism explains a specific leadership style defined by the full range leadership theory (Avolio & Bass, 1991). The purpose, background, research design, survey instruments, research questions, hypotheses, and other methodology for this study were presented in chapter 3. Sampling results, descriptive statistics regarding the sample, testing of multiple linear regression model assumptions, and the results of testing the hypotheses associated with the research questions for this study are presented in this chapter.

The Sample

Responses and Power of the Sample

The population of this study is mid- and upper-level managers of organizations located in the United States. The sampling frame was mid- and upper-level managers in United States organizations who are members of the Qualtrics survey audience. The minimum sample size of 126 participants was determined using G*Power 3.1.9.2 using input parameters described in Chapter 3.

Qualtrics was directed to secure a minimum of 130 participants to allow for the possibility that some responses would have to be dropped from the data set because of corrupted data points, such as outliers, missing data, and inconsistent responses. A sample of 137 responses from mid- and upper-level managers was obtained by Qualtrics using simple random sampling. All 137 participants met all of the inclusion criteria. The 137 responses were received about 24 hours after the survey was launched.

The post-hoc power analysis outputs from the sample are presented in Table 3 and Figure 2. Note that the actual power achieved was 0.889 as compared to the a-priori power of 0.854 in Table 1. Thus, $\alpha = .05$ means that the probability of incorrectly rejecting a true null hypothesis (i.e., making a Type I error) was .05 or for five percent of all possible samples. The Power of the Test, which is .889, is the probability of rejecting a false null hypothesis, which will occur in 88.9 percent of all possible samples.

Table 3
*Post-hoc Achieved Power Analysis using G*Power 3.1.9.2.*

F tests - Linear multiple regression: Fixed model, R^2 deviation from zero		
Analysis:	Post hoc: Compute achieved power	
Input:	Effect size f^2	= 0.15
	α err prob	= 0.05
	Total sample size	= 137
	Number of predictors	= 9
Output:	Noncentrality parameter λ	= 20.5500000
	Critical F	= 1.9543530
	Numerator df	= 9
	Denominator df	= 127
	Power (1-β err prob)	= 0.8892687

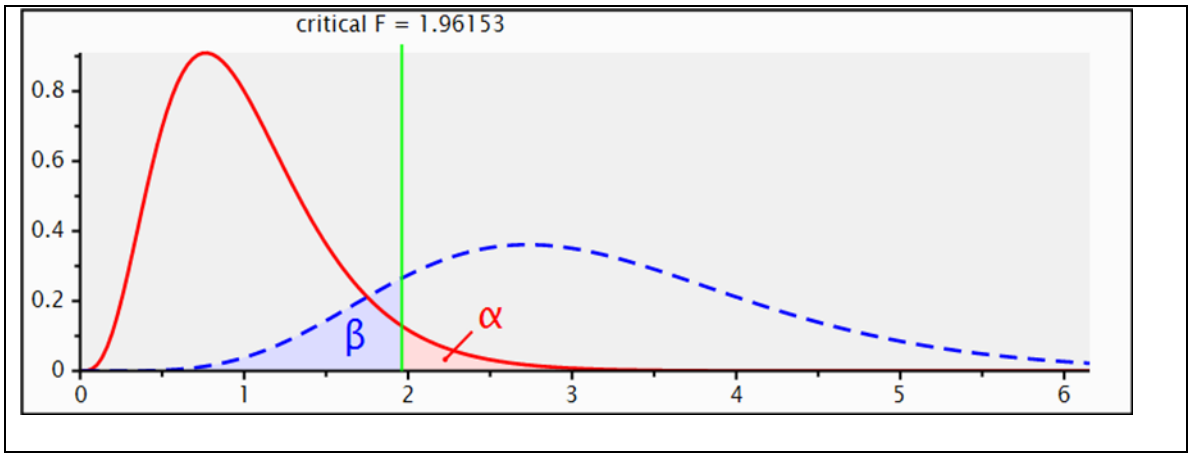

Figure 2
Plot of post-hoc central and non-central distributions from G*Power 3.1.9.2.

Demographics of the Sample

The demographics of the sample provided a wide range of participants that generally reflected the demographics of the United States population. Table 4 summarizes the distribution of the ages of the respondents, which generally corresponds with the ages of working members of the population of the United States.

Table 4
Ages of Respondents

Age Range	Number of Participants	Percent of Participants
25-34	43	31%
35-44	44	32%
45-54	31	23%
55-64	16	12%
65-74	3	2%

Table 5 summarizes the gender of the respondents, which again is reasonably consistent with the gender distribution of members of the population of the United States.

Table 5
Gender of Respondents

Gender	Number of Participants	Percent of Participants
Men	67	49%
Women	70	51%

Table 6 contains data on the race of study participants, which, while not comparable with the racial demographics of the general population, are plausible for the population of mid- to upper-level managers.

Finally, Table 7 displays data on the educational attainment of study participants, which, while not consistent with the education of members of the general working-age population, are plausible for the population of mid- to upper-level managers.

Table 6
Race of Respondents

Race	Number of Participants	Percent of Participants
White, Caucasian, or Other European	117	85%
Black or African American	10	7%
Native American Indian or Alaska Native	1	1%
Asian	6	4%
Hawaiian or Other Pacific Islander	0	0%
Two or more races	3	2%

Table 7
Education in Years of Respondents

Education in Years	Number of Participants	Percent of Participants
Less than 10 years of school	0	0%
Completed 10th Grade	0	0%
Completed 11th Grade	0	0%
Graduated High School	6	4%
1 Year College	7	5%
2 Years College	18	13%
3 Years College	5	4%
Earned Bachelor's Degree	67	49%
1 Year Graduate Level	6	4%
Earned Master's Degree	17	12%
3 Years Graduate Level	3	2%
Advanced Degree (PhD, Doctorate, or other advanced degree)	8	6%

Data Analysis—Testing Statistical Model Assumptions

The assumptions of multiple linear regression models must be met to provide valid test results when analyzing the data. These assumptions and the tests that were used to verify that these assumptions have been satisfied were discussed in detail in chapter 3. Following are the results of the tests used to address these assumptions for this research study.

Data Collected Using a Random Sample

The assumption that the sample data used in this research study were collected using random sampling was tested by examining the sampling plan followed by Qualtrics, which is the firm that conducted data collection. Qualtrics was instructed to draw a sample from the Qualtrics database using simple random sampling methods. They confirmed that the sample was drawn using simple random sampling.

Continuous Dependent Variable

The assumption that the values of the dependent variable are based upon a continuous measurement scale (either interval or ratio measurement) was tested by inspecting the measurement properties of the dependent variables. The three dependent variables used in this research study are (a) *Transformational Leadership Style Index*, (b) *Transactional Leadership Style Index*, and (c) *Laissez-Faire Leadership Style Index*. All three of these dependent variables are continuous measurement scale because all three were computed as the arithmetic means of a subset of responses to questions from the Multifactor Leadership Questionnaire (MLQ) (5-X Rater Form). Arithmetic means are, by definition, real numbers measured on a continuous measurement scale.

Continuous or Categorical Independent Variables

The assumption that the values of the predictor (independent) variables are based upon a continuous measurement scale (either interval or ratio measurement) or are categorical variables (either nominal or ordinal measurement scale) was tested by inspecting the measurement properties of each of the independent variables.

The predictor variable *Narcissistic Personality Traits Index* was calculated as the arithmetic mean from the responses to the 16 questions from the Narcissistic Personality Inventory short version (NPI-16). Arithmetic means are, by definition, real numbers measured on a continuous measurement scale.

The predictor variable *Age* had possible integer values that could range from 18 to 100 and therefore was treated as having a continuous measurement scale. Similarly, the predictor variable *Education in Years* had possible integer values that could range from 1 to 20 and therefore was treated as having a continuous measurement scale.

The predictor variables *Gender*, *Race-African American*, *Race-American Indian or Alaska Native*, *Race-Asian*, and *Race-Two or More Races* were all categorical variables that could assume values of either zero (0) or one (1), thus using a nominal measurement scale. The latter four variables were dummy variables for four categories of the control variable *Race*.

Independence of Residuals

The independence of residuals assumption is usually not of concern in non-time-series data because the likelihood of first-order serial correlation is high only with time-series data. However, for completeness, the Durbin-Watson test was run to examine for the first-order serial correlation between the errors for the data for all three dependent variables.

The hypotheses for the Durbin-Watson test are

H_0: $|\rho| = 0$

H_A: $|\rho| > 0$

where $|\rho|$ is the absolute value of the population autocorrelation coefficient.

The Durbin-Watson tests for each of the three dependent variables for RQ_1, RQ_2, and RQ_3 appear in Table 8. The Durbin-Watson statistic for RQ_1 is $d = 2.241$. Since $d > 2$, the null hypothesis will be tested using $(4 - d) = 1.759$. Using the criteria for testing the null hypothesis given in chapter 3, the null hypothesis for RQ_1 was neither supported nor not supported because $[(d_L = 1.576) < ((4 - d) = 1.759) < (d_U = 1.883)]$. Had we used the rule-of-thumb criterion of supporting the null hypothesis when d is very close to 2, a different decision would have resulted.

Table 8
Durbin-Watson Statistics for the Transformational, Transactional, and Laissez-Faire Leadership Style Indexes [a]

Research Question	Leadership Style Index	Durbin-Watson Statistic *d*	Durbin-Watson Statistic (*4 - d)*	Durbin-Watson Statistic Lower Bound (d_L)	Durbin-Watson Statistic Upper Bound (d_U)
RQ1	Transformational	2.241	1.759	1.576	1.883
RQ2	Transactional	1.583	2.417	1.576	1.883
RQ3	Laissez-Faire	1.986	2.014	1.576	1.883

a. Durbin-Watson statistics from the Model Summaries that appear in Figures 14, 17, and 20.

The Durbin-Watson statistic for RQ_2 is $d = 1.583$. Since $d < 2$, the null hypothesis will be tested using $d = 1.583$. Using the criteria for testing the null hypothesis given in chapter 3 H_0: $|\rho| = 0$, the null hypothesis for RQ_2 was neither supported nor not supported because $[(d_L = 1.576) < (d = 1.583) < (d_U = 1.883)]$. Had we used the rule-of-thumb criterion of supporting the null hypothesis when d is very close to 2, a different decision would have resulted.

The Durbin-Watson statistic for RQ_3 is $d = 1.986$. Since $d < 2$, the null hypothesis will be tested using $d = 1.986$. Using the criteria for testing the null hypothesis given in chapter 3 H_0: $|\rho| = 0$, the null hypothesis for RQ_3 was supported because [($d = 1.986$) > ($d_U = 1.883$)].

Thus, the assumption about the independence of residuals was: (a) confirmed for RQ_3 and (b) neither confirmed nor refuted for RQ_1 and RQ_2. Since the dependent variables did not involve time series data, the assumption that the residuals were first-order serially independent was considered to be satisfied.

Linear Relationship Between Dependent and Independent Variables

The assumption of multiple linear regression linearity is based on two sub-assumptions (a) the dependent and all independent variables have a linear relationship and (b) each pair of the dependent and independent variables is linearly related (Laerd Statistics, 2016). These two assumptions were tested.

Scatterplots test. The first assumption (the dependent and all independent variables have a linear relationship) was tested using a scatterplot of the studentized residuals against the unstandardized predicted values. The scatterplots for RQ_1, RQ_2, and RQ_3 appear in Figures 3, 4, and 5. The hypotheses associated with the first linearity assumption are

H_0: $|\rho| = 0$

H_A: $|\rho| > 0$

where $|\rho|$ is the absolute value of the population cumulative linear correlation coefficient for the dependent variable and all of the independent variables.

Analysis of the scatterplot for RQ_1 that appears in Figure 3 fails to support the null hypothesis H_0: $|\rho| = 0$ because the data points in the scatterplot form a horizontal band. That is, no evidence of a curvilinear or other non-linear relationship is evident.

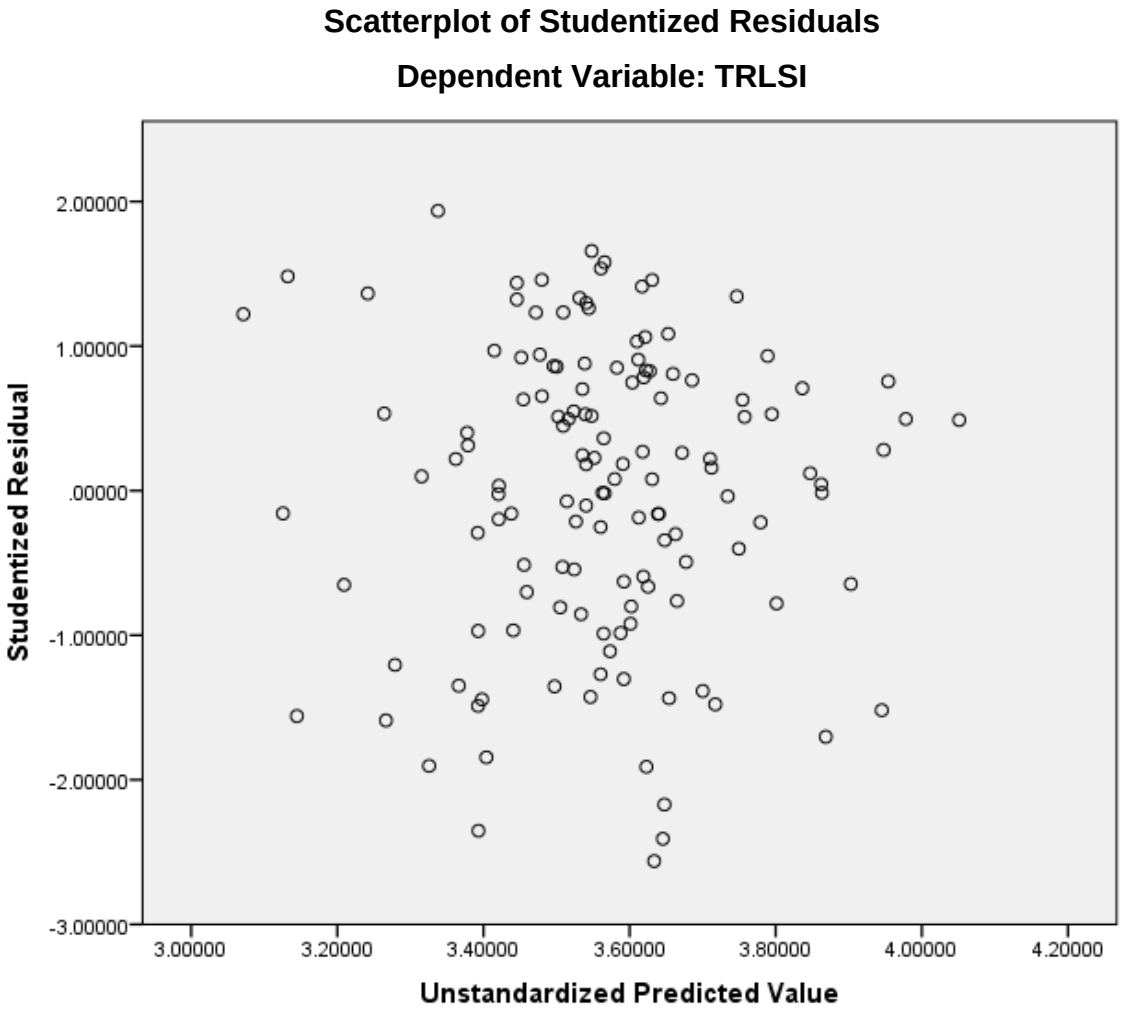

Figure 3. Scatterplot of the studentized residuals against the unstandardized predicted values for the Transformational Leadership Style Index

Analysis of the scatterplot for RQ_2 that appears in Figure 4 fails to support the null hypothesis H_0: $|\rho| = 0$ because the data points in the scatterplot form a horizontal band. That is, no evidence of a curvilinear or other non-linear relationship is evident.

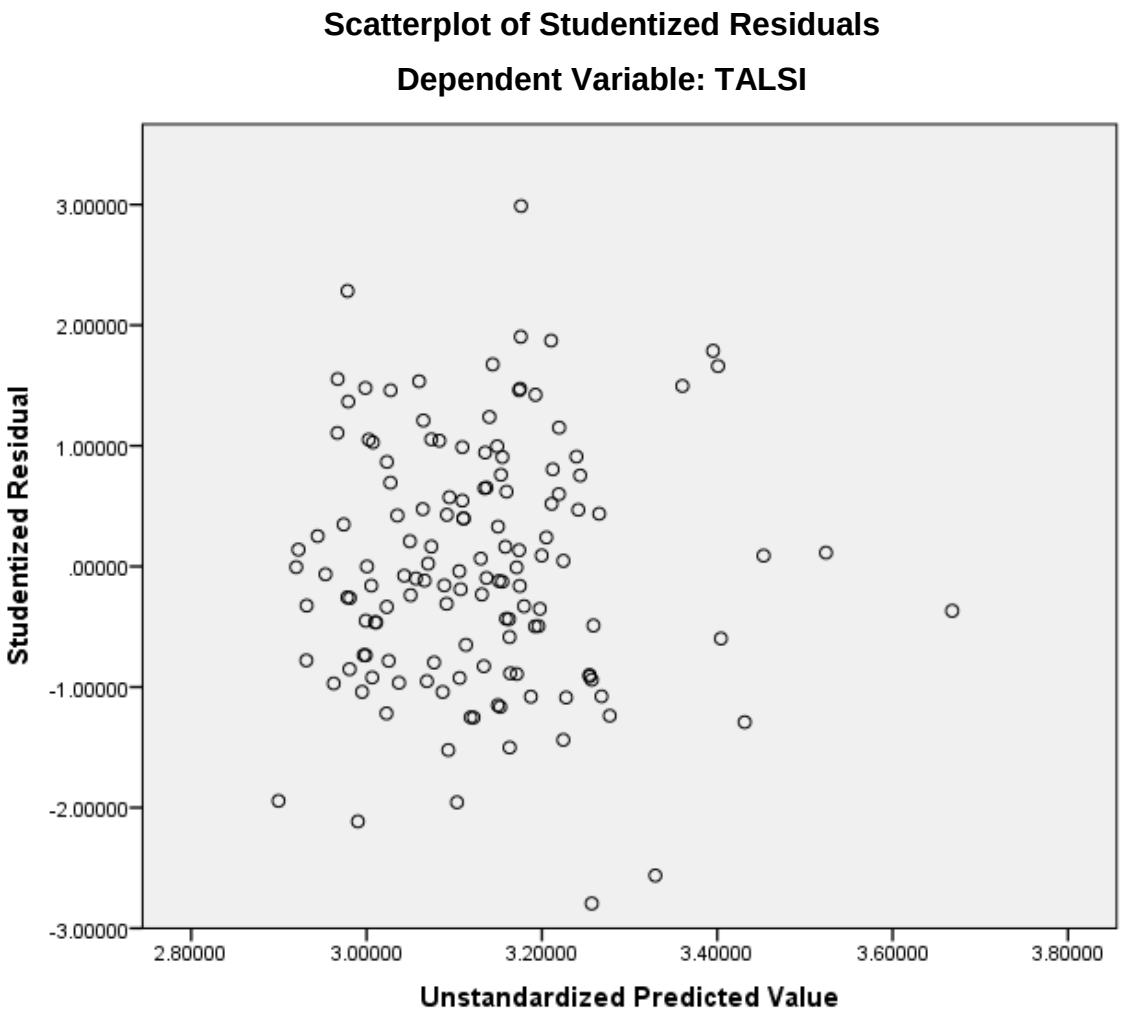

Figure 4. Scatterplot of the studentized residuals against the unstandardized predicted values for the Transactional Leadership Style Index

Analysis of the scatterplot for RQ_3 that appears in Figure 5 fails to support the null hypothesis H_0: $|\rho| = 0$ because the data points in the scatterplot form a horizontal band. That is, no evidence of a curvilinear or other non-linear relationship is evident.

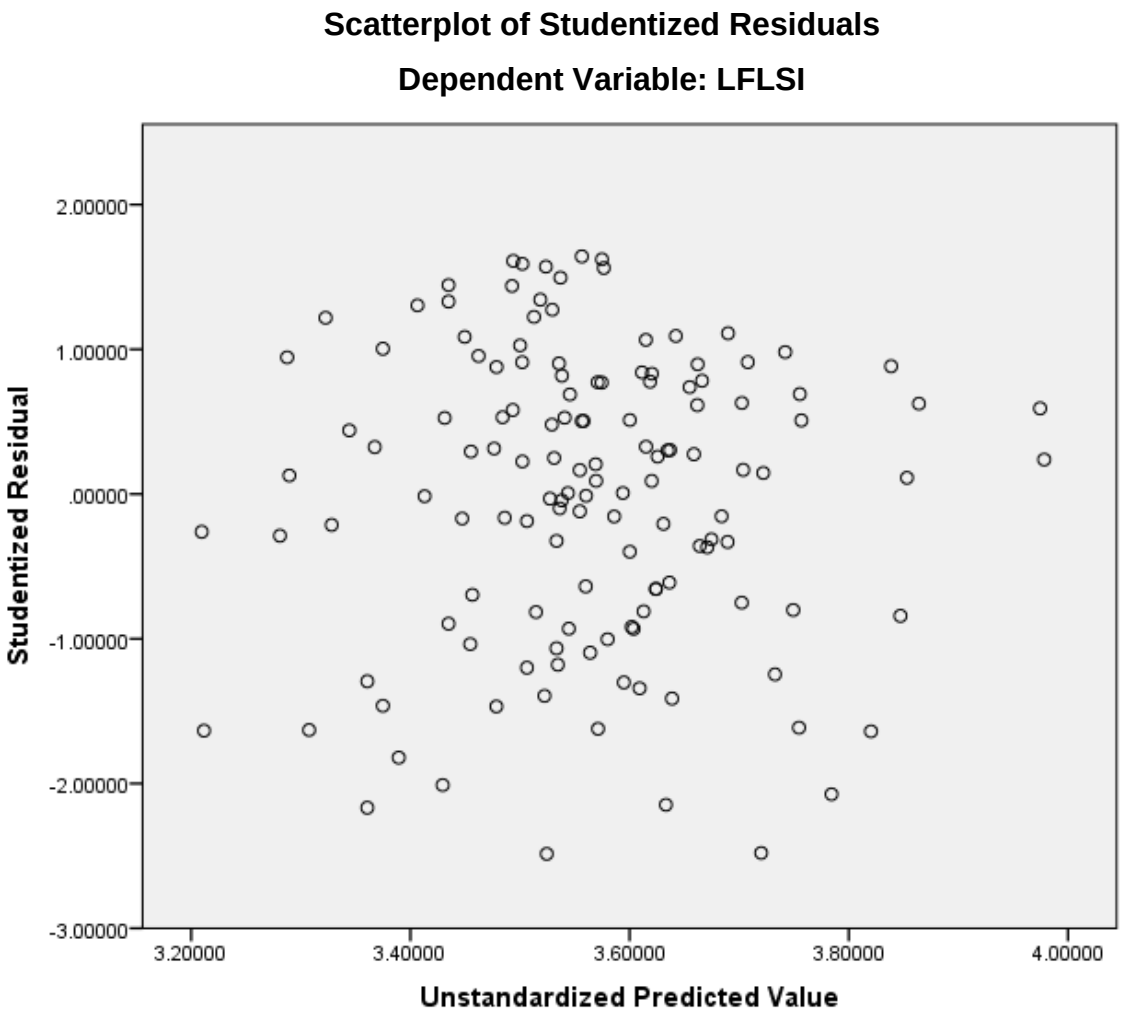

Figure 5. Scatterplot of the studentized residuals against the unstandardized predicted values for the Laissez-Faire Leadership Style Index

The second assumption (each pair of the dependent and non-categorical independent variables is linearly related) was tested using

1. Partial regression plots between each independent variable and the dependent variable (ignoring the categorical variables) and
2. Pearson's correlation coefficients for each pair of independent variable and the dependent variable (ignoring the categorical variables).

The hypotheses associated with the second linearity assumption (each pair of the dependent and non-categorical independent variables is not linearly related) are

H_0: $|\rho_k| = 0$

H_A: $|\rho_k| > 0$

where $|\rho_k|$ is the absolute value of the population linear correlation coefficient for the k^{th} pair of independent and dependent variables.

Partial regression plots test. The three partial regression plots for the dependent variable *Transformational Leadership Style Index* for RQ_1 and the three continuous predictor variables appear in Figures 6, 7, and 8. Analysis of the partial regression plot in Figure 6 indicates that the relationship between the dependent variable and the independent variable *Narcissistic Personality Traits Index* is linear because the data points in the partial regression plots form an approximate straight line with a positive slope, with no evidence of a curvilinear or other non-linear relationship being evident. Analysis of the partial regression plot in Figure 7 indicates that the relationship between the dependent variable and the independent variable *Age* is linear because the data points in the partial regression plots form an approximate straight line with a positive slope, with no evidence of a curvilinear or other non-linear relationship being evident. Analysis of the partial regression plot in Figure 8 indicates that the relationship between the dependent variable and the independent variable *Education in years* is linear because the data points in the partial regression plots form an approximate straight line with a positive slope, with no evidence of a curvilinear or other non-linear relationship being evident.

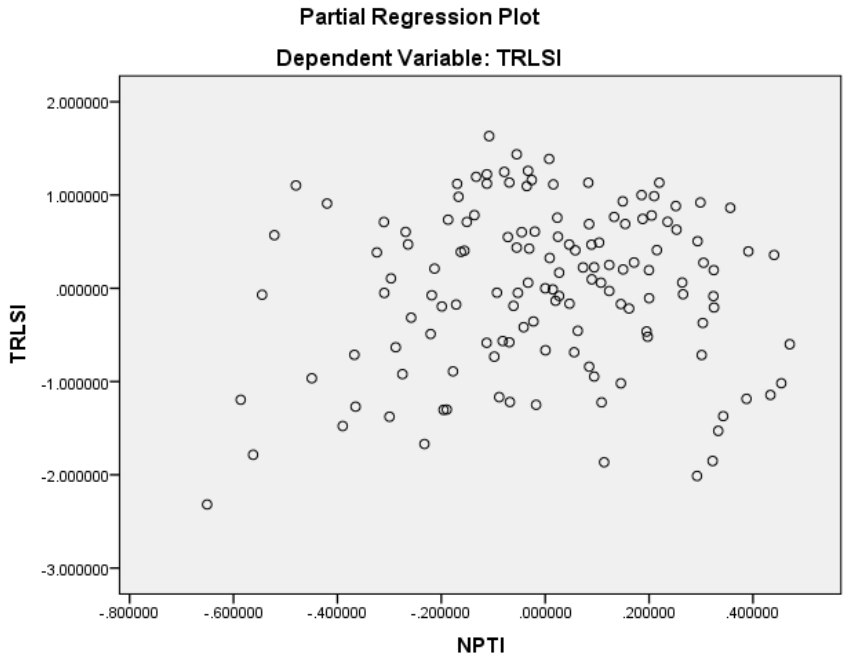

Figure 6
Partial regression plot of the Transformational Leadership Style Index and Narcissistic Personality Traits Index

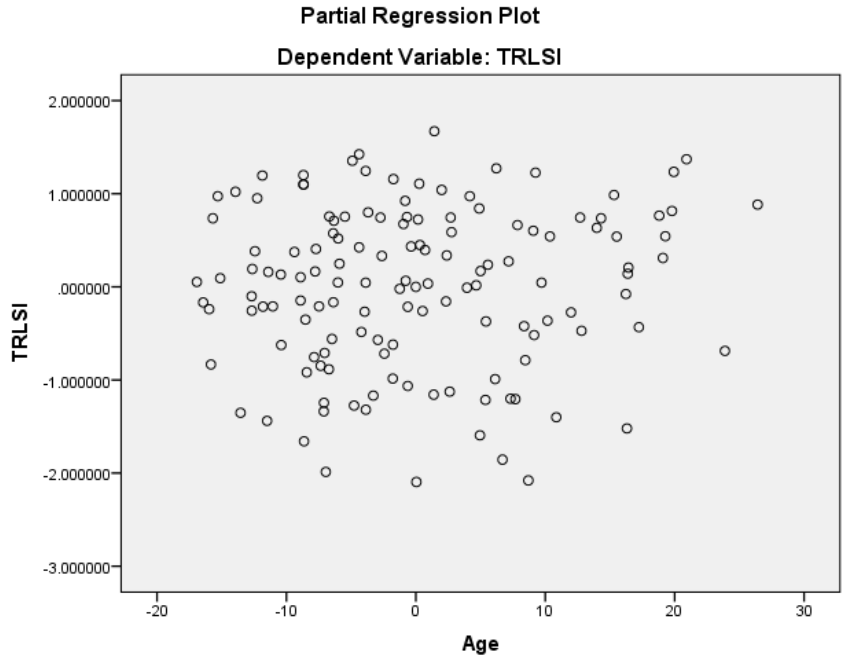

Figure 7
Partial regression plot of the Transformational Leadership Style Index and Age

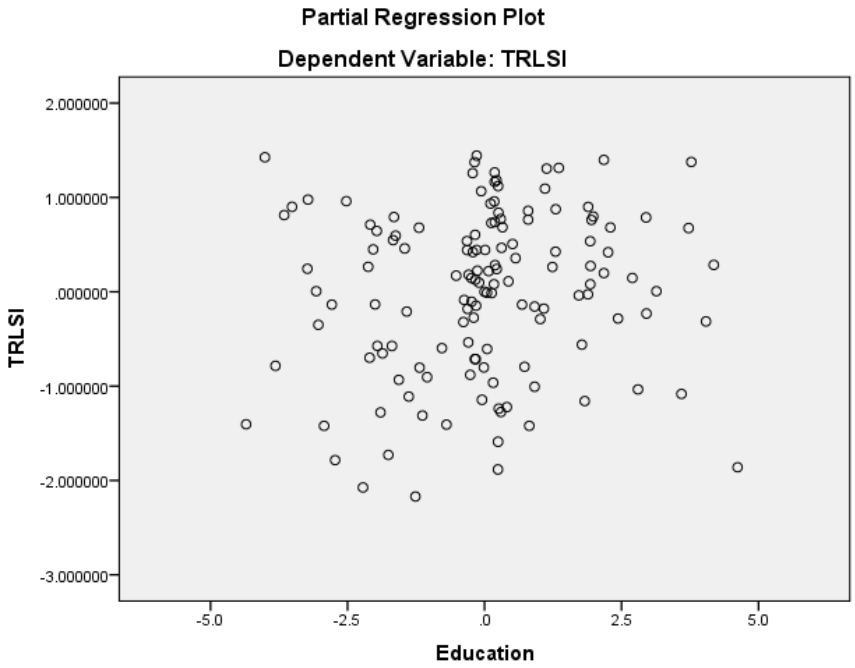

Figure 8
Partial regression plot of the Transformational Leadership Style Index and Education in Years

The three partial regression plots for the dependent variable *Transactional Leadership Style Index* for RQ_2 and the three continuous predictor variables appear in Figures 9, 10, and 11. Analysis of the partial regression plot in Figure 9 indicates that the relationship between the dependent variable and the independent variable *Narcissistic Personality Traits Index* is linear because the data points in the partial regression plots form an approximate straight line with a positive slope, with no evidence of a curvilinear or other non-linear relationship being evident. Analysis of the partial regression plot in Figure 10 indicates that the relationship between the dependent variable and the independent variable *Age* is linear because the data points in the partial regression plots form an approximate straight line with a positive slope, with no evidence of a curvilinear or other non-linear relationship being evident. Analysis of the partial regression plot in

Figure 11 indicates that the relationship between the dependent variable and the independent variable *Education in years* is linear because the data points in the partial regression plots form an approximate straight line with a positive slope, with no evidence of a curvilinear or other non-linear relationship being evident.

The three partial regression plots for the dependent variable *Laissez-Faire Leadership Style Index* for RQ_3 and the three continuous predictor variables appear in Figures 12, 13, and 14. Analysis of the partial regression plot in Figure 12 indicates that the relationship between the dependent variable and the independent variable *Narcissistic*

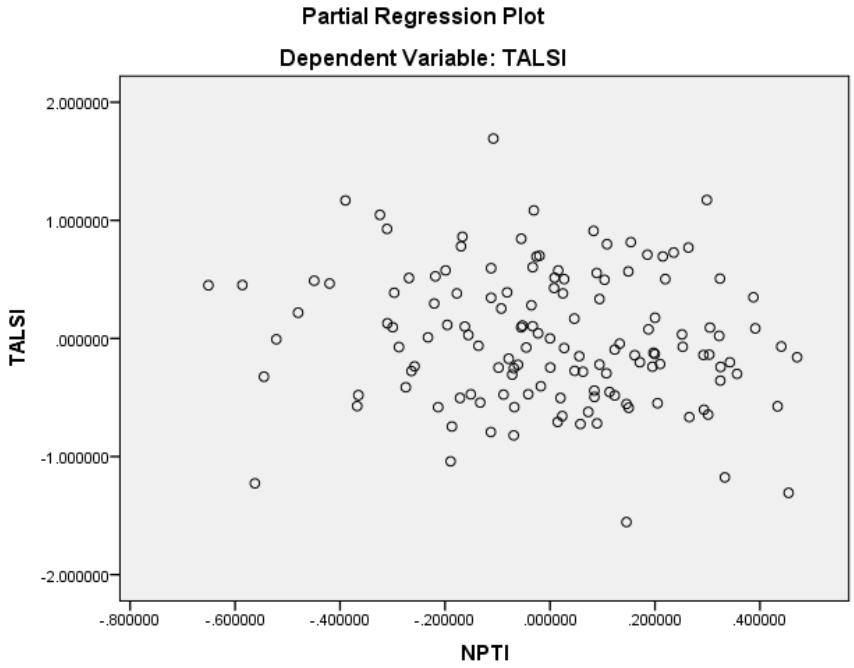

Figure 9
Partial regression plot of the Transactional Leadership Style Index and Narcissistic Personality Traits Index

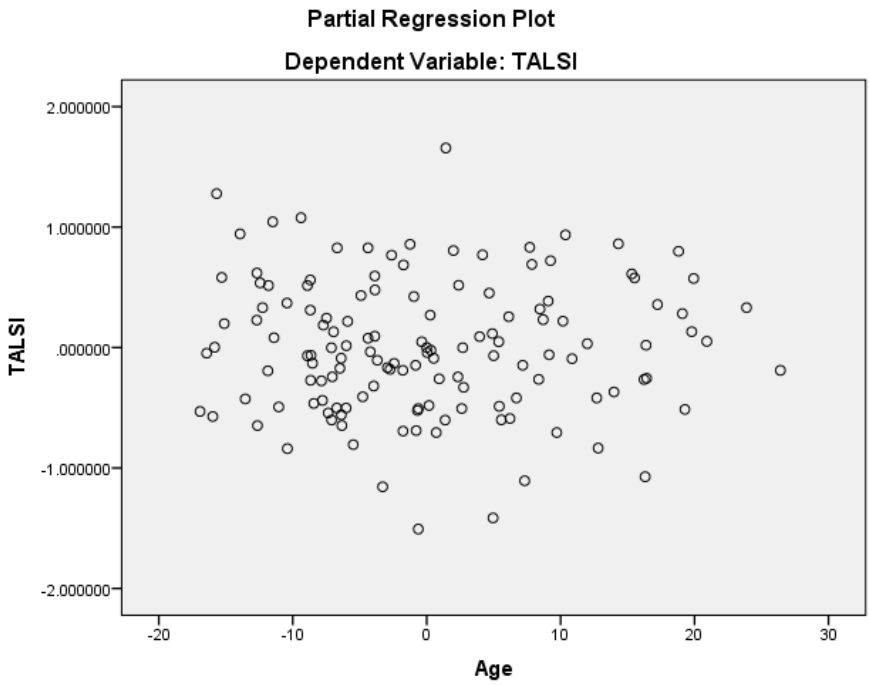

Figure 10
Partial regression plot of the Transactional Leadership Style Index and Age

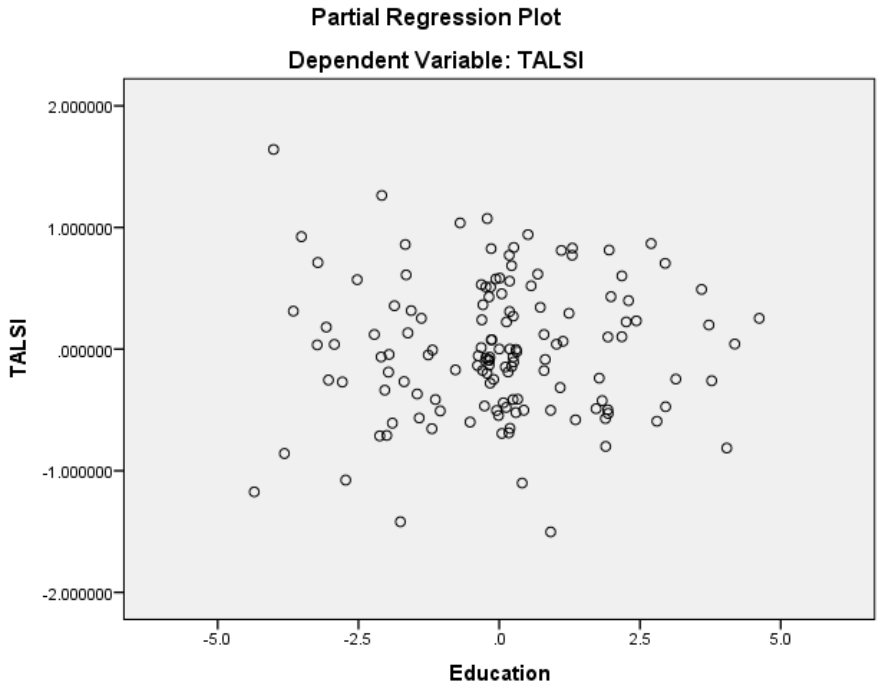

Figure 11
Partial regression plot of Transactional Leadership Style Index and Education in Years

Personality Traits Index is linear because the data points in the partial regression plots form an approximate straight line with a positive slope, with no evidence of a curvilinear or other non-linear relationship being evident. Analysis of the partial regression plot in Figure 13 indicates that the relationship between the dependent variable and the independent variable *Age* is linear because the data points in the partial regression plots form an approximate straight line with a positive slope, with no evidence of a curvilinear or other non-linear relationship being evident. Analysis of the partial regression plot in Figure 14 indicates that the relationship between the dependent variable and the independent variable *Education in years* is linear because the data points in the partial regression plots form an approximate straight line with a positive slope, with no evidence of a curvilinear or other non-linear relationship being evident.

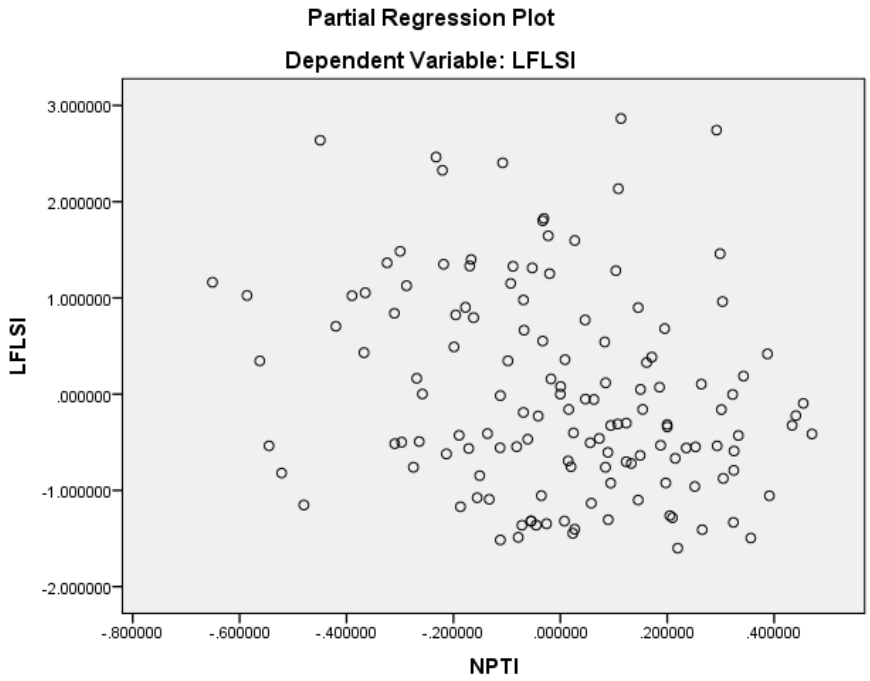

Figure 12
Partial regression plot of the Laissez-Faire Leadership Style Index and Narcissistic Personality Traits Index

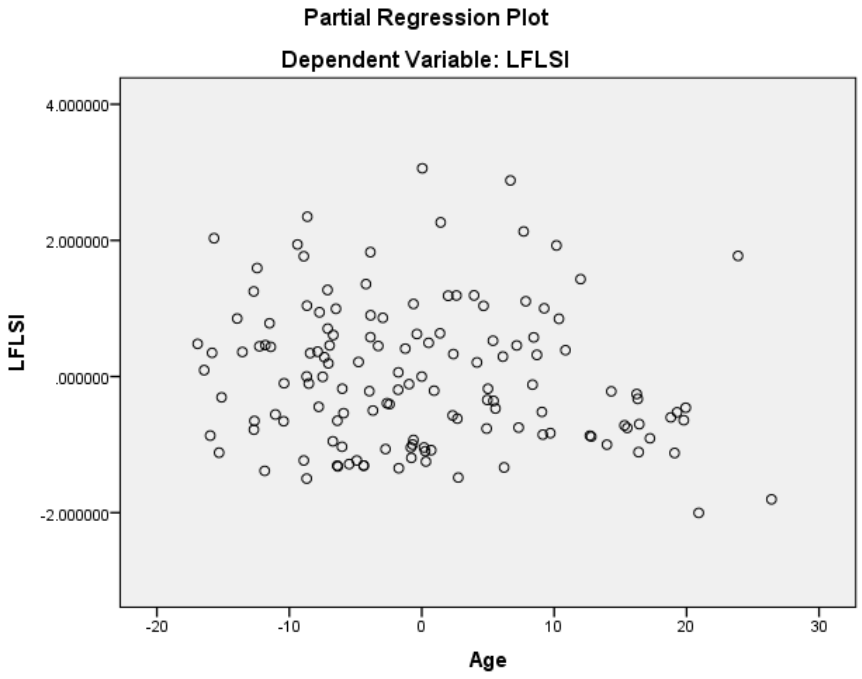

Figure 13
Partial regression plot of the Laissez-Faire Leadership Style Index and Age

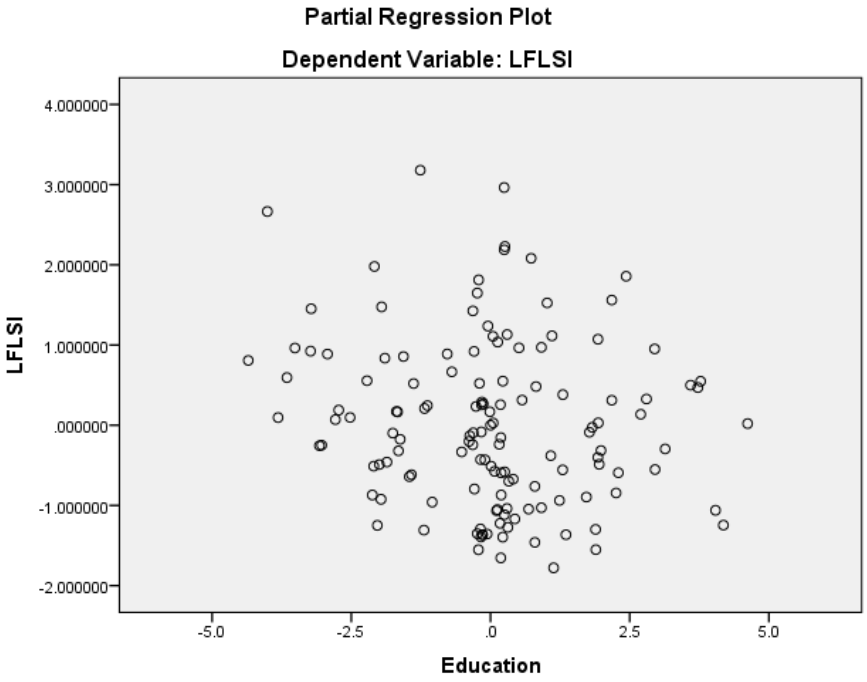

Figure 14
Partial regression plot of the Laissez-Faire Leadership Style Index and Education in Years

Pearson's linear correlation coefficients test. The second test of the assumption of pairwise linearity between the dependent variable and each dependent variable utilizes Pearson's correlation coefficients. The Pearson's correlation coefficients matrix for RQ_1 appears in Table 9. The null hypothesis H_0: $|\rho_k| = 0$ for the *Transformational Leadership Style Index* and the *Narcissistic Personality Traits Index* is supported because [($p = .142$) > ($\alpha = .05$)]. The null hypothesis H_0: $|\rho_k| = 0$ for the *Transformational Leadership Style Index* and *Age* is supported because [($p = .174$) > ($\alpha = .05$)]. The null hypothesis H_0: $|\rho_k| = 0$ for the *Transformational Leadership Style Index* and *Education in Years* is supported because [($p = .082$) > ($\alpha = .05$)]. Thus, the assumption of pairwise linearity between the dependent variable and each independent variable has not been satisfied for all three variable pairs for RQ_1.

The Pearson's correlation coefficients matrix for RQ_2 appears in Table 10. The null hypothesis H_0: $|\rho_k| = 0$ for the *Transactional Leadership Style Index* and the *Narcissistic Personality Traits Index* is not supported because [($p = .029$) < ($\alpha = .05$)]. The null hypothesis H_0: $|\rho_k| = 0$ for the *Transactional Leadership Style Index* and *Age* is supported because [($p = .232$) > ($\alpha = .05$)]. The null hypothesis H_0: $|\rho_k| = 0$ for the *Transactional Leadership Style Index* and *Education in Years* is supported because [($p = .480$) > ($\alpha = .05$)]. Thus, the pairwise linearity assumption was satisfied for the first variable pair involving the *Narcissistic Personality Traits Index* but was not satisfied for variable pairs involving *Age* and *Education in Years*. Note that the Pearson's correlation coefficient value of $r = -.162$ indicates a very weak linear relationship between the

Transactional Leadership Style Index and *Narcissistic Personality Traits Index* because the value of *r* is considerably less than .7.

Table 9
Pearson's Correlation Coefficient Matrix for Research Question 1

		TRLSI	NPTI	Age	Gender	Black	Indian	Asian	Hawaiian	Two	Education
Pearson's Correlation	TRLSI	1.000	.092	.081	-.026	-.031	.096	-.066		.062	.119
	NPTI	.092	1.000	.211	.017	-.063	-.006	.021		-.112	.066
	Age	.081	.211	1.000	.049	-.065	.043	-.120		-.156	-.084
	Gender	-.026	.017	.049	1.000	.106	.084	-.076		.047	-.115
	White	.012	.082	.172	-.074	-.679	-.207	-.518		-.362	-.019
	Black	-.031	-.063	-.065	.106	1.000	-.024	-.060		-.042	-.132
	Indian	.096	-.006	.043	.084	-.024	1.000	-.018		-.013	.002
	Asian	-.066	.021	-.120	-.076	-.060	-.018	1.000		-.032	.159
	Hawaiian								1.000		
	Two	.062	-.112	-.156	.047	-.042	-.013	-.032		1.000	.057
	Education	.119	.066	-.084	-.115	-.132	.002	.159		.057	1.000
Sig. (1-tailed)	TRLSI		.142	.174	.383	.361	.133	.221	0.000	.236	.082
	NPTI	.142		.007	.422	.233	.472	.403	0.000	.096	.222
	Age	.174	.007		.285	.224	.310	.081	0.000	.034	.166
	Gender	.383	.422	.285		.109	.165	.189	0.000	.294	.091
	White	.443	.171	.022	.196	.000	.008	.000	0.000	.000	.411
	Black	.361	.233	.224	.109		.390	.243	0.000	.313	.063
	Indian	.133	.472	.310	.165	.390		.416	0.000	.441	.492
	Asian	.221	.403	.081	.189	.243	.416		0.000	.355	.032
	Hawaiian	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000
	Two	.236	.096	.034	.294	.313	.441	.355	0.000		.254
	Education	.082	.222	.166	.091	.063	.492	.032	0.000	.254	

a. Dependent Variable: Transformational Leadership Style Index

Table 10
Pearson's Correlation Coefficient Matrix for Research Question 2

		TALSI	NPTI	Age	Gender	Black	Indian	Asian	Hawaiian	Two	Education
Pearson's Correlation	TALSI	1.000	-.162	-.063	-.066	.103	-.007	.000		.099	.004
	NPTI	-.162	1.000	.211	.017	-.063	-.006	.021		-.112	.066
	Age	-.063	.211	1.000	.049	-.065	.043	-.120		-.156	-.084
	Gender	-.066	.017	.049	1.000	.106	.084	-.076		.047	-.115
	White	-.115	.082	.172	-.074	-.679	-.207	-.518		-.362	-.019
	Black	.103	-.063	-.065	.106	1.000	-.024	-.060		-.042	-.132
	Indian	-.007	-.006	.043	.084	-.024	1.000	-.018		-.013	.002
	Asian	.000	.021	-.120	-.076	-.060	-.018	1.000		-.032	.159
	Hawaiian								1.000		
	Two	.099	-.112	-.156	.047	-.042	-.013	-.032		1.000	.057
	Education	.004	.066	-.084	-.115	-.132	.002	.159		.057	1.000
Sig. (1-tailed)	TALSI		.029	.232	.223	.116	.470	.498	0.000	.125	.480
	NPTI	.029		.007	.422	.233	.472	.403	0.000	.096	.222
	Age	.232	.007		.285	.224	.310	.081	0.000	.034	.166
	Gender	.223	.422	.285		.109	.165	.189	0.000	.294	.091
	White	.091	.171	.022	.196	.000	.008	.000	0.000	.000	.411
	Black	.116	.233	.224	.109		.390	.243	0.000	.313	.063
	Indian	.470	.472	.310	.165	.390		.416	0.000	.441	.492
	Asian	.498	.403	.081	.189	.243	.416		0.000	.355	.032
	Hawaiian	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000
	Two	.125	.096	.034	.294	.313	.441	.355	0.000		.254
	Education	.480	.222	.166	.091	.063	.492	.032	0.000	.254	

a. Dependent Variable: Transactional Leadership Style Index

The Pearson's correlation coefficients matrix for RQ_3 appears in Table 11. The null hypothesis H_0: $|\rho_k| = 0$ for the *Laissez-Faire Leadership Style Index* and the *Narcissistic Personality Traits Index* is not supported because [($p = .001$) < ($\alpha = .05$)]. The null hypothesis H_0: $|\rho_k| = 0$ for the *Laissez-Faire Leadership Style Index* and *Age* is not supported because [($p = .018$) < ($\alpha = .05$)]. The null hypothesis H_0: $|\rho_k| = 0$ for the *Laissez-Faire Leadership Style Index* and *Education in Years* is not supported because [($p = .015$) < ($\alpha = .05$)]. Thus, the pairwise linearity assumption has been satisfied for all of the three variable pairs for RQ_3. Note that the Pearson's correlation coefficient values (a) $r = -.274$ indicates a very weak linear relationship between the *Laissez-Faire Leadership Style Index* and *Narcissistic Personality Traits Index*, (b) $r = -.179$ indicates a very weak linear relationship between the *Laissez-Faire Leadership Style Index* and *Age*, and (c) $r = -.185$ indicates a very weak linear relationship between the *Laissez-Faire Leadership Style Index* and *Education in Years* because, for all three variable pairs, r is considerably less than .7.

Linearity assumption summary. The assumption of multiple linear regression linearity is based on two sub-assumptions: (a) the dependent and all independent variables have a linear relationship and (b) each pair of the dependent and non-categorical independent variables is linearly related (Laerd Statistics, 2016). The first assumption was tested using scatterplots of the studentized residuals against the unstandardized predicted values. The assumption was satisfied because the scatterplots of the studentized residuals against the unstandardized predicted values for RQ_1, RQ_2, and RQ_3 showed no evidence of a curvilinear or other non-linear relationship.

The second assumption was tested using partial regression plots and Pearson's linear correlation coefficients. The partial regression plots indicated possible weak linear relationships

between the dependent and independent variables for all three research questions. However, analysis of the Pearson's correlation coefficient tests, none of the three variable pairs for RQ_1 appear to have a linear relationship. The Pearson's correlation coefficient tests for the assumption of pairwise linearity was satisfied for: (a) one variable pair for RQ_2 and (b) all three variable pairs for RQ_3.

Table 11
Pearson's Correlation Coefficient Matrix for Research Question 3

		LFLSI	NPTI	Age	Gender	Black	Indian	Asian	Hawaiian	Two	Education
Pearson's Correlation	LFLSI	1.000	-.274	-.179	.060	.160	-.100	.000		-.073	-.185
	NPTI	-.274	1.000	.211	.017	-.063	-.006	.021		-.112	.066
	Age	-.179	.211	1.000	.049	-.065	.043	-.120		-.156	-.084
	Gender	.060	.017	.049	1.000	.106	.084	-.076		.047	-.115
	White	-.064	.082	.172	-.074	-.679	-.207	-.518		-.362	-.019
	Black	.160	-.063	-.065	.106	1.000	-.024	-.060		-.042	-.132
	Indian	-.100	-.006	.043	.084	-.024	1.000	-.018		-.013	.002
	Asian	.000	.021	-.120	-.076	-.060	-.018	1.000		-.032	.159
	Hawaiian								1.000		
	Two	-.073	-.112	-.156	.047	-.042	-.013	-.032		1.000	.057
	Education	-.185	.066	-.084	-.115	-.132	.002	.159		.057	1.000
Sig. (1-tailed)	LFLSI		.001	.018	.242	.031	.122	.500	0.000	.197	.015
	NPTI	.001		.007	.422	.233	.472	.403	0.000	.096	.222
	Age	.018	.007		.285	.224	.310	.081	0.000	.034	.166
	Gender	.242	.422	.285		.109	.165	.189	0.000	.294	.091
	White	.230	.171	.022	.196	.000	.008	.000	0.000	.000	.411
	Black	.031	.233	.224	.109		.390	.243	0.000	.313	.063
	Indian	.122	.472	.310	.165	.390		.416	0.000	.441	.492
	Asian	.500	.403	.081	.189	.243	.416		0.000	.355	.032
	Hawaiian	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000
	Two	.197	.096	.034	.294	.313	.441	.355	0.000		.254
	Education	.015	.222	.166	.091	.063	.492	.032	0.000	.254	

a. Dependent Variable: Laissez-Faire Leadership Style Index

Homoscedasticity of Error Variances

Homoscedasticity assumes that the residuals are equal for all values of the predicted dependent variables (or, as discussed in chapter 3, the null hypothesis to be tested is H_0: $\sigma^2_i = \sigma^2$) (Laerd Statistics, 2016). The homoscedasticity assumption is tested using the same scatterplots of studentized residuals against unstandardized predicted values that were created to test the assumption of linearity. The homoscedasticity assumption is satisfied if the dispersion of the residuals does not increase or decrease as you move across the domain of predicted values.

Figures 3, 4, and 5 contain the plots of studentized residuals against unstandardized predicted values for RQ_1, RQ_2, and RQ_3. The pattern of the data points in the scatterplot for RQ_1 that appears in Figure 3 shows a uniform spread across the domain of predicted values. That is, the pattern of data points does not show an increasing or decreasing funnel shape or the shape of a fan. Thus, the assumption of homoscedasticity of the error variances is met for RQ_1.

The pattern of the data points in the scatterplot for RQ_2 that appears in Figure 4 shows a uniform spread across the domain of predicted values. That is, the pattern of data points does not show an increasing or decreasing funnel shape or the shape of a fan. Thus, the assumption of homoscedasticity of the error variances is met for RQ_2.

The pattern of the data points in the scatterplot for RQ_3 that appears in Figure 5 shows a uniform spread across the domain of predicted values. That is, the pattern of data points does not show an increasing or decreasing funnel shape nor the shape of a fan. Thus, the assumption of homoscedasticity of the error variances is met for RQ_3.

Absence of Multicollinearity Between Independent Variables

Multicollinearity occurs when two or more predictor variables are highly correlated with each other (or, as discussed in chapter 3, the null hypothesis to be tested is H_0: $|\rho| = 0$) (Field, 2013; Laerd Statistics, 2016). When multicollinearity exists, the values of the regression coefficients for each variable are either interchangeable or nearly interchangeable, depending on the strength of the linear relationship between the two variables. When two variables are collinear, determining which variable contributes to the variance explained in the model is difficult (Field, 2013: Laerd Statistics, 2016). In addition, collinearity creates unreliable sample regression coefficients and constrains the size of the value for *R* (Field, 2013; Laerd Statistics, 2016).

The absence of multicollinearity was assessed using two different methods (a) using Pearson's linear correlation coefficients and (b) by inspecting the Tolerance/VIF (Variance Inflation Factor) values. Tables 9, 10, and 11 present Pearson's linear correlation coefficient matrices for each of the independent variable pairs for RQ_1, RQ_2, and RQ_3.

Pearson's correlation. The null hypothesis H_0: $|\rho| = 0$ is supported for all of the non-categorical independent variable pairs for RQ_1, RQ_2, and RQ_3 except for the variable pair *Narcissistic Personality Traits Index* and *Age*. This is because [$p > (\alpha = .05)$] for all of the non-categorical independent variable pairs for RQ_1 except for the variable pair *Narcissistic Personality Traits Index* and *Age*. However, the null hypothesis H_0: $|\rho| = 0$ is not supported for the variable pair *Narcissistic Personality Traits Index* and *Age* because [$(p = .007) < (\alpha = .05)$]. Note that although this statistical test indicated that a linear

relationship existed between the variable pair *Narcissistic Personality Traits Index* and *Age*, the correlation coefficient for the variable pair $r = .211$ is considerably less than the recommended threshold of .7 (Laerd Statistics, 2016). Therefore, the linear relationship is so weak that multicollinearity was not a concern. Note that only the correlation coefficients for RQ_1 needed to be tested since the independent variables are the same for all three RQs.

Tolerance/VIF. The Tolerance/VIF values for this study appear in Table 12. When the Tolerance values are less than 0.1 or the VIF is greater than 10, a collinearity problem exists (Laerd Statistics, 2016). Recall from chapter 3 that the VIF values are the reciprocal of the Tolerance values (i.e., VIF = 1/Tolerance). Therefore, only the Tolerance values need to be examined.

Inspection of the values in the Tolerance column shows that the Tolerance values for all variables are significantly greater than the recommended level of 0.1. In fact, none of the Tolerance values are less than .9. Therefore, no evidence of multicellularity among the independent variables exists.

Multicollinearity summary. The assumption that no-to-minimal multicollinearity exists among the independent variables utilizing Pearson's linear correlation coefficients and Tolerance values suggests no significant presence of multicollinearity among the non-categorical independent variable pairs.

Table 12
VIF and Tolerance Statistics[a]

RQ		Collinearity Statistics	
		Tolerance	VIF
RQ1	Age	0.908	1.102
	Gender	0.962	1.039
	Black	0.960	1.041
	Indian	0.990	1.010
	Asian	0.954	1.048
	Two	0.956	1.046
	Education	0.938	1.066
	TRSLI	0.938	1.067
RQ2	Age	0.908	1.102
	Gender	0.962	1.039
	Black	0.960	1.041
	Indian	0.990	1.010
	Asian	0.954	1.048
	Two	0.956	1.046
	Education	0.938	1.066
	TASLI	0.938	1.067
RQ3	Age	0.908	1.102
	Gender	0.962	1.039
	Black	0.990	1.041
	Indian	0.954	1.010
	Asian	0.990	1.048
	Two	0.954	1.046
	Education	0.938	1.066
	LFLI	0.938	1.067

a. Independent Variable: NPTI

Absence of Significant Outliers, High Leverage Points, and Highly Influential Points

Data points that are classified as unusual from the perspective of fitting a multiple linear regression model may impede the generalization or statistical inference of the regression equation (Laerd Statistics, 2016). Three main types of unusual points exist (a) outliers, (b) high leverage points, and (c) highly influential points. Examination of the data points to identify potential outliers, leverage points, and highly influential points for each research question is presented in the following three subsections.

Outliers. As discussed in chapter 3, outliers are data points that lie far away from their predicted value. Outliers can be detected utilizing residuals (standardized, studentized, or studentized deleted) (Laerd Statistics, 2016). SPSS produces a Casewise Diagnostics table that lists any cases where the response standardized residual is greater than ±3 standard deviations from the mean (Laerd Statistics, 2016). Laerd states that, if all cases have standardized residuals less that ±3, the Casewise Diagnostics table will not be generated by SPSS. Casewise Diagnostics tables were not generated for RQ_1, RQ_2, or RQ_3 using the outlier threshold of ±3 standard deviations from the mean, thus indicating that no outliers were found.

Leverage points. Leverage points are found utilizing the SPSS Data View window to inspect the LEV_1 value for each participant (Laerd Statistics, 2016). As we discussed in chapter 3, Laerd states that values (a) less than 0.2 are safe, (b) greater than 0.2 but less than 0.5 are risky, and (c) greater than 0.5 are dangerous. SPSS identified three cases with LEV_1 values greater than 0.2 but less than .5 (0.3370, 0.34018, and 0.35416), which were cases 30, 25, and 47 respectively. These cases were recorded to

determine in the next subsection if they are highly influential points (Laerd Statistics, 2016).

Highly influential points. Cook's Distance values are utilized to measure influence (Laerd Statistics, 2016). Cook's Distance values greater than 1, as a general rule, should be investigated as possible highly influential points (Laerd Statistics, 2016). The data for this study was examined and no Cook's Distance values were identified that had values greater than 1. Therefore, no highly influential points were identified in the data set.

Residuals are Approximately Normally Distributed

As discussed in chapter 3, the error terms (residuals) should be approximately normally distributed in order to accurately make inferences about the population using the multiple linear regression results (Laerd Statistics, 2016). Assumptions of normality were tested in this research study using five statistical methods (a) a histogram with a superimposed normal curve, (b) a Normal P-P Plot, (c) a Normal Q-Q Plot of the studentized residuals, (d) a Kolmogorov-Smirnov test, and (e) a Shapiro-Wilk test. The first three methods involve judgement in interpreting graphs while the last two methods use statistical inference.

Histograms. Histograms appear in Figures 15, 16, and 17 for the Error Terms for the three research questions. These histograms were produced in the data analysis and are presented below is Figures 15, 16, and 17.

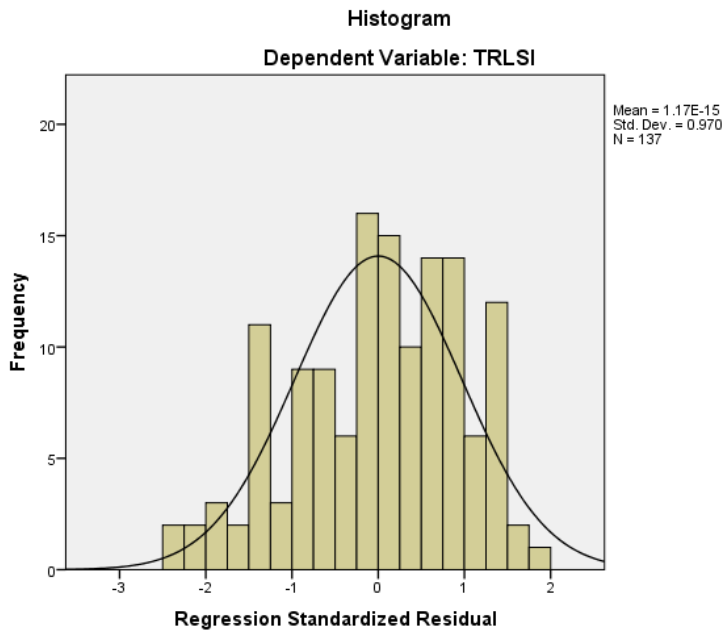

Figure 15
Histogram for Transformational Leadership Style Index Error Terms (RQ_1)

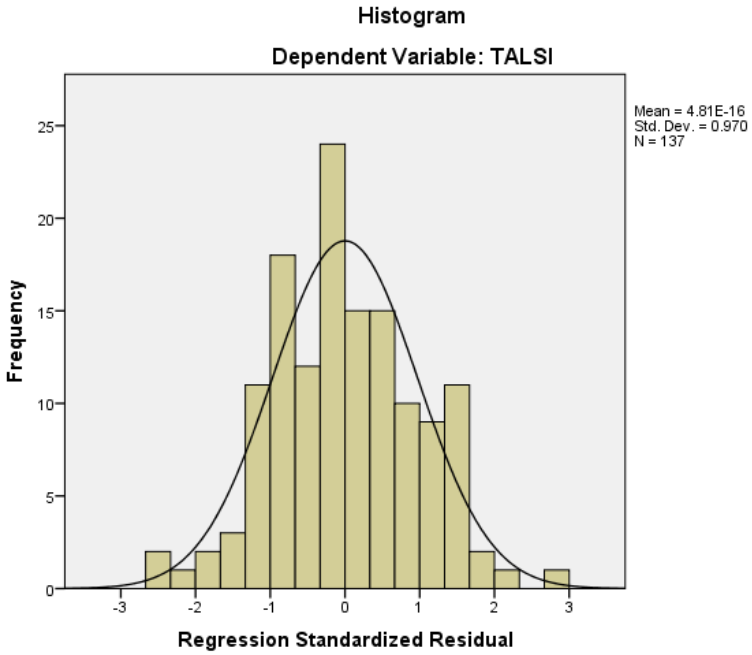

Figure 16
Histogram for Transactional Leadership Style Index Error Terms (RQ_2)

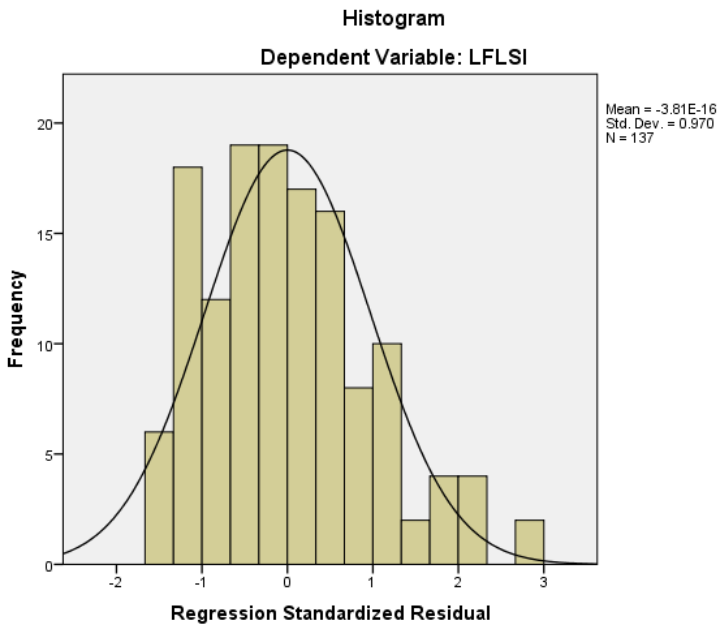

Figure 17
Histogram for Laissez-Faire Leadership Style Index Error Terms (RQ_3)

The histograms for the dependent variables for all three models indicate the standardized residuals are not approximately normally distributed. Laerd Statistics (2016) states that histograms can be deceptive because their appearance can largely depend on the selection of the column width.

P-P plots. P-P plots of the regression standardized residuals for the three dependent variables for RQ_1, RQ_2, and RQ_3 appear in Figures 18, 19, and 20. As discussed in chapter 3, Laerd Statistics (2016) states that, if the regression standardized residuals are normally distributed, the points will be aligned along the diagonal line of the P-P Plot. Note that they need not be perfectly aligned with the diagonal line because that rarely occurs and the assumption states that the residuals need only be approximately normally distributed. The P-P plots displayed in Figures 18, 19, and 20 indicate that the regression

standardized residuals are approximately normally distributed because they lie close to the diagonal line.

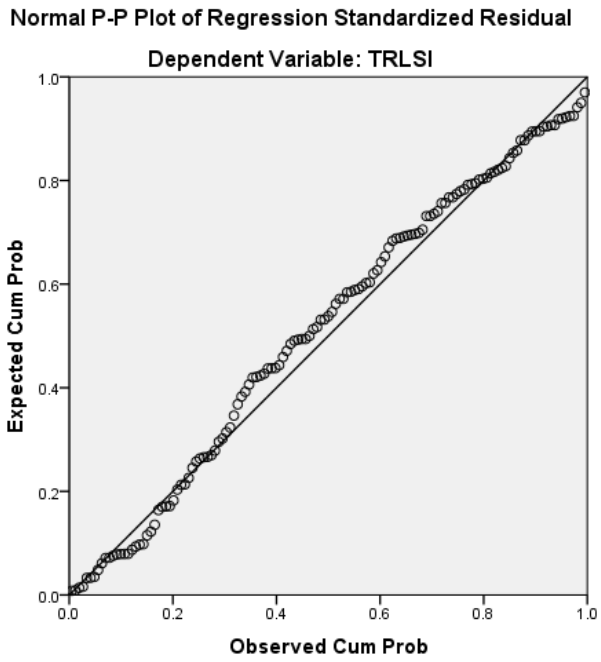

Figure 18
Normal P-P plot of regression standardized residuals for the Transformational Leadership Style Index (RQ_1)

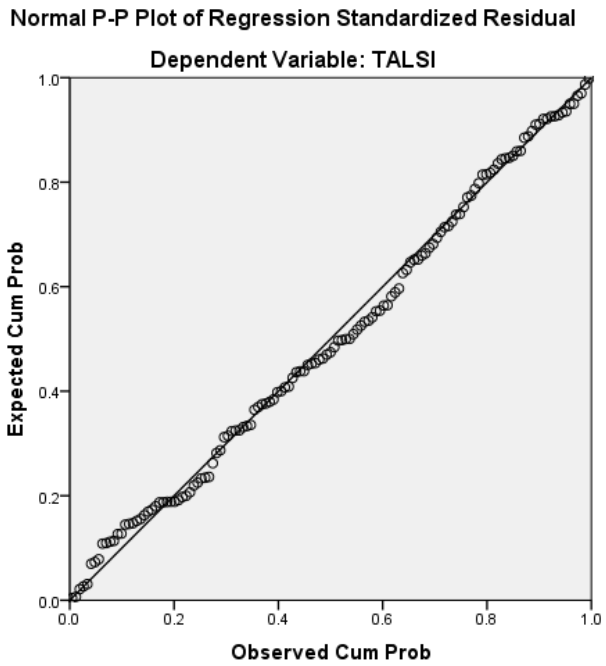

Figure 19
Normal P-P plot of regression standardized residuals for the Transactional Leadership Style Index (RQ_2)

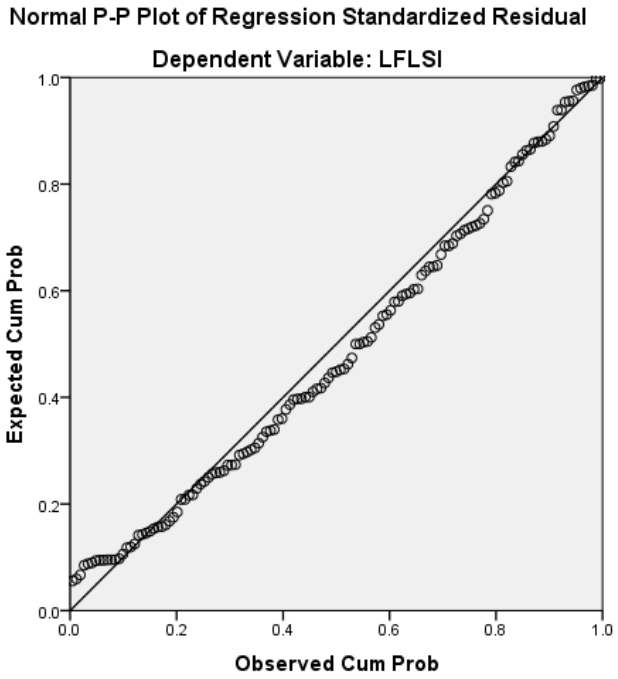

Figure 20
Normal P-P plot of regression standardized residuals for the Laissez-Faire Leadership Style Index (RQ_3)

Q-Q plots. Q-Q plots of the regression studentized residuals for the three dependent variables for RQ_1, RQ_2, and RQ_3 appear in Figures 21, 22, and 23 for the Error Terms. As discussed in chapter 3, Laerd Statistics (2016) states that, if the regression studentized residuals are normally distributed, the points will be aligned along the diagonal line of the Q-Q Plot. Note that they need not be perfectly aligned with the diagonal line because that rarely occurs and the assumption states that the residuals need only be approximately normally distributed. The Q-Q plots displayed in Figures 21, 22, and 23 indicate that the regression studentized residuals are approximately normally distributed because they lie close to the diagonal line.

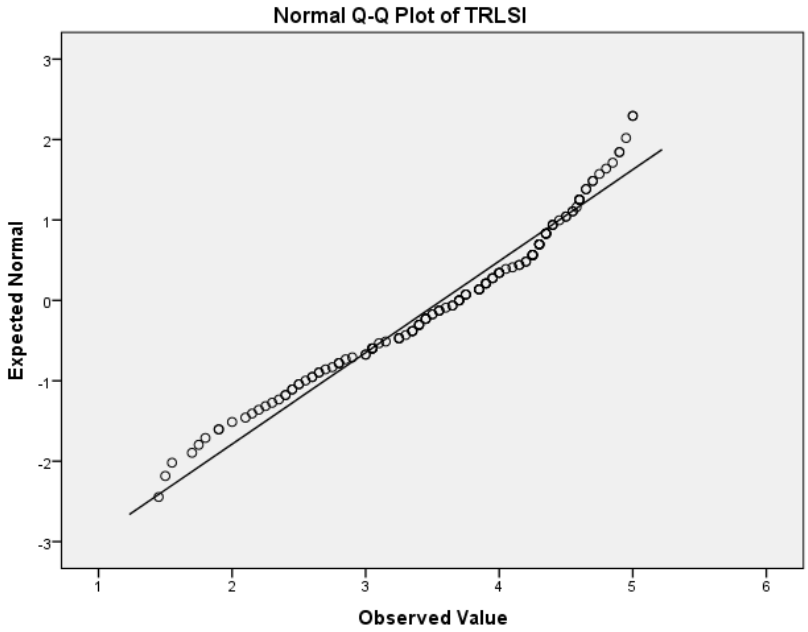

Figure 21
Normal Q-Q Plot of the studentized residuals for the Transformational Leadership Style Index (RQ_1)

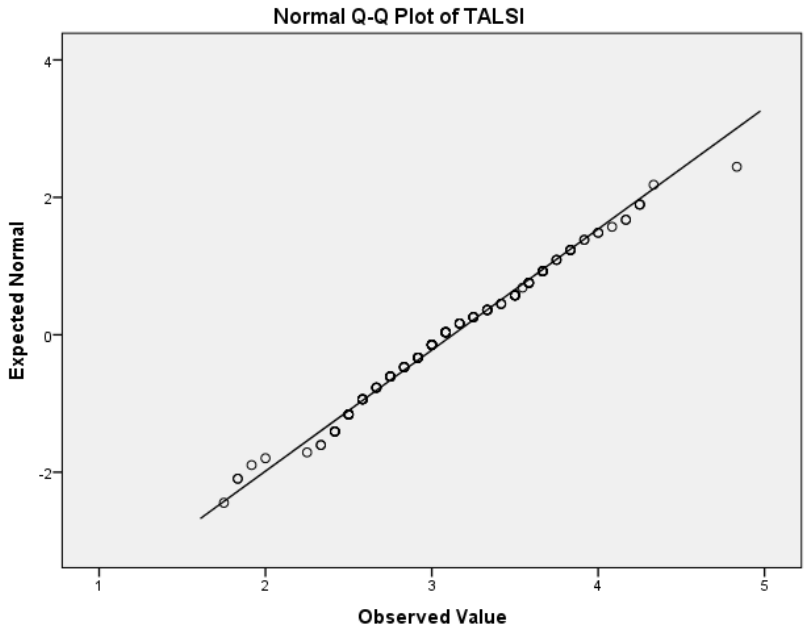

Figure 22
Normal Q-Q Plot of the studentized residuals for the Transactional Leadership Style Index (RQ_2)

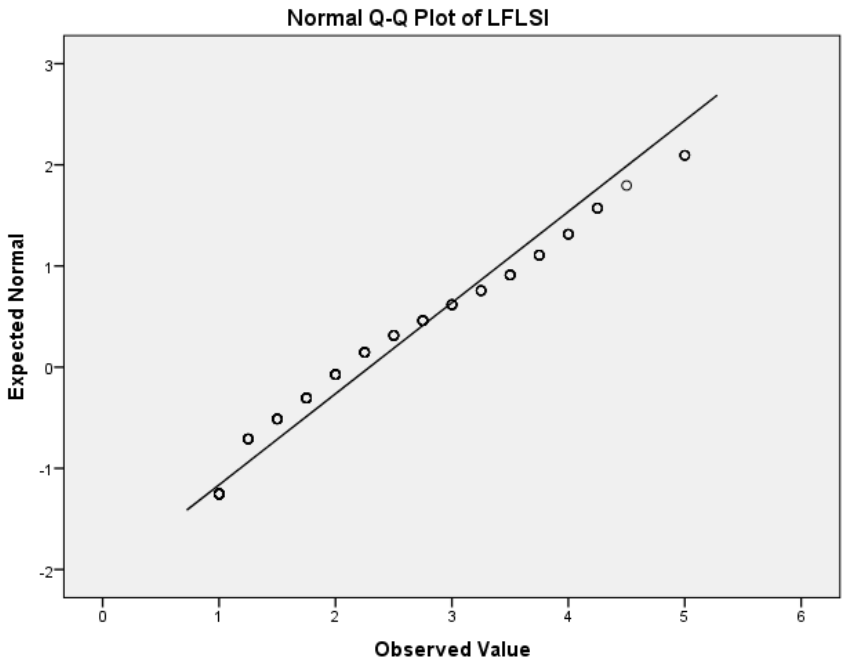

Figure 23
Normal Q-Q Plot of the studentized residuals for the Laissez-Faire Leadership Style Index (RQ_3)

Kolmogorov-Smirnov Test. The results for the three Kolmogorov-Smirnov tests appear in Table 13. For RQ_1, the null hypothesis H_0: $F(\varepsilon_i) = N(\mu, \sigma^2)$ that the residuals for the outcome variable *Transformational Leadership Style Index* are normally distributed was not supported because [($p = .013$) < ($\alpha = .05$)]. For RQ_2, the null hypothesis H_0: $F(\varepsilon_i) = N(\mu, \sigma^2)$ that the residuals for the outcome variable *Transactional Leadership Style Index* are normally distributed was not supported because [($p = .042$) < ($\alpha = .05$)]. For RQ_3, the null hypothesis H_0: $F(\varepsilon_i) = N(\mu, \sigma^2)$ that the residuals for the outcome variable *Laissez-Faire Leadership Style Index* are normally distributed was not supported because [($p < .0005$) < ($\alpha = .05$)]. Thus, the Kolmogorov-Smirnov test results indicate that the probability distributions for all three dependent variables is not normal.

Table 13
Kolmogorov-Smirnov and Shapiro-Wilk Statistics for the Transformational Leadership Style Index (RQ_1), Transactional Leadership Style Index (RQ_2), and Laissez-Faire Leadership Style Index (RQ_3)

	Dependent	Kolomogorov-Smirnov[a]			Shapiro-Wilk		
RQ	Variable	Statistic	*df*	Sig.	Statistic	*df*	Sig.
RQ_1	Transformational	0.087	137	0.013	0.960	137	0.000
RQ_2	Transactional	0.178	137	0.042	0.990	137	0.408
RQ_3	Laissez-Faire	0.122	137	0.000	0.917	137	0.000

a. Lilliefors Significance Correction

Shapiro-Wilk Test. The results for the three Shapiro-Wilk tests also appear in Table 13. For RQ_1, the null hypothesis H_0: $F(\varepsilon_i) = N(\mu, \sigma^2)$ that the residuals for the outcome variable *Transformational Leadership Style Index* are normally distributed was not supported because $[(p < .0005) < (\alpha = .05)]$. For RQ_2, the null hypothesis H_0: $F(\varepsilon_i) = N(\mu, \sigma^2)$ that the residuals for the outcome variable *Transactional Leadership Style Index* are normally distributed was supported because $[(p = .408) > (\alpha = .05)]$. For RQ_3, the null hypothesis H_0: $F(\varepsilon_i) = N(\mu, \sigma^2)$ that the residuals for the outcome variable *Laissez-Faire Leadership Style Index* are normally distributed was not supported because $[(p < .0005) < (\alpha = .05)]$. Thus, the Shapiro-Wilk test results indicate that the probability distributions for the two dependent variables *Transformational Leadership Style Index* and *Laissez-Faire Leadership Style Index* are not normal while the probability distribution for the dependent variable *Transactional Leadership Style Index* is normal.

Interpretation and conclusion. The test of the null hypothesis H_0: $F(\varepsilon_i) = N(\mu, \sigma^2)$ for normality of the residuals using the five methods produced mixed results. Most of the tests indicated that the null hypothesis of normality of the error terms were not

supported. However, some tests supported the null hypothesis. This provides an indication of how difficult testing the assumptions of a statistical model can be. For this research study, the test results could be summarized as ranging from concluding that the dependent variables are not normally distributed to concluding that the test results were inconclusive because of contradictions in the results for the various methods.

Fortunately, the multiple linear regression model is considered to be very robust, particularly for larger sample sizes. Therefore, an indication that a lack of normality in the residuals exists does not preclude having confidence in the results of multiple linear regression. Field (2013) emphasizes that, for larger sample sizes, a lack of normality in the probability distributions of the residuals will not bias estimators from a multiple linear regression model because the Central Limit Theorem ensures that the distribution of the residuals is approximately normal. Tabachnick & Fidell (2013) state that underestimates of variance due to positive and negative skew of the distribution of the residuals are not significant when sample sizes are larger.

Model Assumption Summary

All assumptions of multiple linear regression were satisfied. Residuals were determined to be first-order serially independent supported by the Durbin-Watson statistics for each of the three models. Linearity and homoscedasticity were confirmed utilizing scatterplots. Multicollinearity was examined utilizing Tolerance/VIF values. Outliers, high leverage points, and highly influential points were tested utilizing Casewise Diagnostics and studentized deleted residuals, leverage values, and Cook's

Distance, respectively. Finally, residuals were examined for being normally distributed utilizing Histograms, P-P Plots, and two tests of statistical inference.

Data Analysis—Testing the Multiple Linear Regression Hypotheses for RQ_1

Hierarchical multiple linear regression was used to analyze the data associated with research question 1. Two models were run to test the hypotheses for research question 1. Model 1 included only the predictor variable *Narcissistic Personality Traits Index* (NPTI). Model 2 included the predictor variables *Narcissistic Personality Traits Index* (NPTI), *Age* (Age), *Gender* (Gender), *Education in Years* (Education), *Race-African American* (Black), *Race- American Indian or Alaska Native* (Indian), *Race-Asian* (Asian), *Race-Native Hawaiian or Other Pacific Islander* (Hawaiian), and *Race-Two or More Races* (Two Races). Because none of the respondents selected Hawaiian as their race, the variable *Race-Native Hawaiian or Other Pacific Islander* was excluded from the multiple linear regression analysis.

Testing RQ_1 Model-Fit Hypotheses

Model fit refers to a model's ability to predict the outcome (dependent) variable (Field, 2013). Model fit for research question 1 was evaluated by testing the following null and alternative hypotheses using a level of significance of $\alpha = .05$

H_0: $\rho^2 = 0$

H_A: $\rho^2 > 0$

where ρ^2 represents the population coefficient of determination.

The Model Summary and ANOVA tables for research question 1, which were used to test the null and alternative hypotheses, appear in Tables 14 and 15. The p-value for the model fit for RQ_1 Model 1 appears in Table 15 as .284. The null hypothesis

H_0: $\rho^2 = 0$

was supported because [(p = .284) > (α = .05)], which means that the predictor variable in Model 1 is not a statistically significant predictor of the dependent variable.

The p-value for the model fit for RQ_1 Model 2 appears in Table 15 as .597. The null hypothesis H_0: $\rho^2 = 0$ was supported because [(p = .597) > (α = .05)], which means that the predictor variables in Model 2 are not statistically significant predictors of the dependent variable.

Table 14
Model Summary for RQ_1.

Model Summary[c]

Model	*R*	*R* Square	Adjusted *R* Square	Std. Error of the Estimate	Durbin-Watson
1	.092[a]	.008	.001	.878380306	
2	.219[b]	.048	-.011	.883904854	2.241

a. Predictors: (Constant), NPTI
b. Predictors: (Constant), NPTI, Indian, Asian, Black, Two, Gender, Education, Age
c. Dependent Variable: TRLSI

Table 15
ANOVA Table for RQ_1

ANOVA[a]						
Model		Sum of Squares	*df*	Mean Square	*F*	Sig.
1	Regression	.891	1	.891	1.155	.284[b]
	Residual	104.160	135	.772		
	Total	105.051	136			
2	Regression	5.046	8	.631	.807	.597[c]
	Residual	100.005	128	.781		
	Total	105.051	136			

a. Dependent Variable: TRLSI
b. Predictors: (Constant), NPTI
c. Predictors: (Constant), NPTI, Indian, Asian, Black, Two, Gender, Education, Age

Examining model fit for RQ_1 Model 1 in Table 14, R^2 = .008 and adjusted R^2 = .001. The value of R^2 indicates when only the *Narcissistic Personality Traits Index* is used as a predictor, less than one percent of the variability in the outcome variable, *Transformational Leadership Style Index*, was explained. That is, 99% of the variability in the outcome variable was not explained by the predictor variable. The adjusted R^2 value illustrates that the predictor variable was such a poor predictor that even less of the variability in the outcome variable was explained for the multiple linear regression model associated with the population.

All of the predictor variables (*Narcissistic Personality Traits Index, Age*, *Gender*, *Race*, and *Education in Years*) were included in RQ_1 Model 2, which resulted in R^2 = .048 and adjusted R^2 = -.011. The value of R^2 indicates that when all of the variables were used as predictors, only 4.8% of the variability in the outcome variable, *Transformational Leadership Style Index*, was explained. That is, 95.2% of the

variability in the outcome variable was not explained by the predictor variables. The adjusted R^2 value illustrates that all of the predictor variables were such poor predictors that even less of the variability in the outcome variable was explained for the multiple linear regression model associated with the population. In fact, a negative value for the adjusted R^2 indicates just how poor was the predictive ability of the predictor variables.

Testing RQ_1 Hypotheses for the Regression Coefficients

Despite the fact that both of the two null hypotheses for model fit for RQ_1 Models 1 and 2 were supported, a decision was made to test the hypotheses for the regression coefficients for the two models.

For research question 1 Model 1, the regression coefficient was evaluated by testing the following null and alternative hypotheses using a level of significance of $\alpha = .05$

$H_0i: \beta_i = 0$

$H_Ai: \beta_i \neq 0$

for i = 0, 1 and where (a) β_0 is the population regression coefficient for the y-intercept and (b) β_1 is the population regression coefficient for the independent variable *Narcissistic Personality Traits Index* (X_1).

The SPSS results relating to the regression coefficients appear in Table 16, which provides the relevant statistics for testing the hypotheses associated with the regression coefficients. The p-value for the null hypothesis for β_0 for RQ_1 Model 1 appears in Table 16 as .000. The null hypothesis $H_0: \beta_0 = 0$ was not supported because $[(p < .0005) < (\alpha/2 = .025)]$, which means that the y-intercept for Model 1 is a statistically

significant predictor of the dependent variable. However, as was discussed in chapter 3, whether or not the y-intercept is statistically significant is meaningless in terms of interpreting the multiple linear regression results because the y-intercept is simply the arithmetic mean of the outcome or dependent variable.

The p-value for the null hypothesis for β_1 for RQ_1 Model 1 appears in Table 16 as .284. The null hypothesis H_0: $\beta_1 = 0$ was supported because [(p = .284) > ($\alpha/2$ = .025)], which means that the regression coefficient for the predictor variable *Narcissistic Personality Traits Index* (NPTI) in Model 1 is not a statistically significant predictor of the dependent variable. This result is consistent with the previous result that supported the null hypothesis for model fit H_0: $\rho^2 = 0$. The result is also confirmed by the fact that the Pearson's linear correlation coefficient in Table 9 for the predictor variable *Narcissistic Personality Traits Index* (NPTI) and the outcome variable *Transformational Leadership Style Index* (r = .092) was not significant (i.e., the null hypothesis $\rho = 0$ was not supported because [(p = .142) > (α = .05)]).

For research question 1 Model 2, the regression coefficients were evaluated by testing the following null and alternative hypotheses using a level of significance of $\alpha = .05$

H_0i: $\beta_i = 0$

H_Ai: $\beta_i \neq 0$

for i = 0, 1, 2, …, 9 and where (a) β_0 is the y-intercept, (b) β_1 is the population regression coefficient for the independent variable *Narcissistic Personality Traits Index* (X_1), (b) β_2 is the population regression coefficient for the control variable *Age* (X_1), (c) β_3 is the

population regression coefficient for the control variable *Gender* (X_3), (d) β_4 is the population regression coefficient for the control variable *Education in Years* (X_4), (e) β_5 is the population regression coefficient for the dummy control variable *Race-African American* (X_5), (f) β_6 is the population regression coefficient for the dummy control variable *Race-American Indian or Alaska Native* (X_6), (g) β_7 is the population regression coefficient for the dummy control variable *Race-Asian* (X_7), (h) β_8 is the population regression coefficient for the dummy control variable *Race-Native Hawaiian or Other Pacific Islander* (X_8), and (i) β_9 is the population regression coefficient for the dummy control variable *Race-Two or More Races* (X_9).

The p-value for the null hypothesis for β_0 for RQ_1 Model 2 appears in Table 16 as .000. The null hypothesis H_0: $\beta_0 = 0$ was not supported because $[(p < .0005) < (\alpha/2 = .025)]$, which means that the y-intercept for Model 2 is a statistically significant predictor of the dependent variable. However, as was discussed in chapter 3, whether or not the y-intercept is statistically significant is meaningless in terms of interpreting the multiple linear regression results because the y-intercept is simply the arithmetic mean of the outcome or dependent variable.

The null hypothesis H_0: $\beta_1 = 0$ was supported because $[(p = .374) > (\alpha/2 = .025)]$, which means that the regression coefficient for the predictor variable *Narcissistic Personality Traits Index* (NPTI) in Model 2 is not a statistically significant predictor of the dependent variable. This result is consistent with the previous result that supported the null hypothesis for model fit H_0: $\rho^2 = 0$. The result is also confirmed by the fact that the Pearson's linear correlation coefficient in Table 9 for the predictor variable

Narcissistic Personality Traits Index (NPTI) and the outcome variable *Transformational Leadership Style Index* (r = .092) was not significant (i.e., the null hypothesis $\rho = 0$ was not supported because [(p = .142) > (α = .05)]).

The null hypothesis H_0: $\beta_2 = 0$ was supported because [(p = .411) > ($\alpha/2$ = .025)], which means that the regression coefficient for the predictor variable *Age* (Age) in Model 2 is not a statistically significant predictor of the dependent variable. This result is confirmed by the fact that the Pearson's linear correlation coefficient in Table 9 for the predictor variable *Age* (Age) and the outcome variable *Transformational Leadership Style Index* (r = .081) was not significant (i.e., the null hypothesis $\rho = 0$ was not supported because [(p = .174) > (α = .05)]).

The null hypothesis H_0: $\beta_3 = 0$ was supported because [(p = .701) > ($\alpha/2$ = .025)], which means that the regression coefficient for the predictor variable *Gender* (Gender) in Model 2 is not a statistically significant predictor of the dependent variable. This result is confirmed by the fact that the Pearson's linear correlation coefficient in Table 9 for the predictor variable *Gender* (Gender) and the outcome variable *Transformational Leadership Style Index* (r = -.026) was not significant (i.e., the null hypothesis $\rho = 0$ was not supported because [(p = .383) > (α = .05)]).

The null hypothesis H_0: $\beta_4 = 0$ was supported because [(p = .165) > ($\alpha/2$ = .025)], which means that the regression coefficient for the predictor variable *Education in Years* (Education) in Model 2 is not a statistically significant predictor of the dependent variable. This result is confirmed by the fact that the Pearson's linear correlation coefficient in Table 9 for the predictor variable *Education in Years* (Education) and the

outcome variable *Transformational Leadership Style Index* (r = .119) was not significant (i.e., the null hypothesis $\rho = 0$ was not supported because [(p = .082) > (α = .05)]).

The null hypothesis H_0: $\beta_5 = 0$ was supported because [(p = .999) > ($\alpha/2$ = .025)], which means that the regression coefficient for the predictor variable *Race-African American* (Black) in Model 2 is not a statistically significant predictor of the dependent variable. This result is confirmed by the fact that the Pearson's linear correlation coefficient in Table 9 for the predictor variable *Race-African American* (Black) and the outcome variable *Transformational Leadership Style Index* (r = -.031) was not significant (i.e., the null hypothesis $\rho = 0$ was not supported because [(p = .361) > (α = .05)]).

The null hypothesis H_0: $\beta_6 = 0$ was supported because [(p = .273) > ($\alpha/2$ = .025)], which means that the regression coefficient for the predictor variable *Race-American Indian or Alaska Native* (Indian) in Model 2 is not a statistically significant predictor of the dependent variable. This result is confirmed by the fact that the Pearson's linear correlation coefficient in Table 9 for the predictor variable *Race-American Indian or Alaska Native* (Indian) and the outcome variable *Transformational Leadership Style Index* (r = .096) was not significant (i.e., the null hypothesis $\rho = 0$ was not supported because [(p = .133) > (α = .05)]).

The null hypothesis H_0: $\beta_7 = 0$ was supported because [(p = .384) > ($\alpha/2$ = .025)], which means that the regression coefficient for the predictor variable *Race-Asian* (Asian) in Model 2 is not a statistically significant predictor of the dependent variable. This result is confirmed by the fact that the Pearson's linear correlation coefficient in Table 9 for the predictor variable *Race-Asian* (Asian) and the outcome variable *Transformational*

Leadership Style Index (r = -.066) was not significant (i.e., the null hypothesis $\rho = 0$ was not supported because [(p = .221) > (α = .05)]).

The null hypothesis H_0: $\beta_8 = 0$ was not evaluated because no responses were received for the predictor variable *Race-Hawaiian or Alaska Native* (Hawaiian).

The null hypothesis H_0: $\beta_9 = 0$ was supported because [(p = .392) > ($\alpha/2$ = .025)], which means that the regression coefficient for the predictor variable *Race-Two or More Races* (Two Races) in Model 2 is not a statistically significant predictor of the dependent variable. This result is confirmed by the fact that the Pearson's linear correlation coefficient in Table 9 for the predictor variable *Race-Two or More Races* (Two Races) and the outcome variable *Transformational Leadership Style Index* (r = .062) was not significant (i.e., the null hypothesis $\rho = 0$ was not supported because [(p = .236) > (α = .05)]).

In conclusion, the results from testing the hypotheses were consistent with the results of testing the hypotheses associated with model fit.

Table 16

Regression Coefficients for RQ_1 (Transformational Leadership Style Index (DV))

Coefficients[a]												
		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	3.051	.489		6.234	.000	2.083	4.019					
	NPTI	.329	.306	.092	1.075	.284	-.276	.934	.092	.092	.092	1.000	1.000
2	(Constant)	2.476	.677		3.655	.000	1.135	3.816					
	NPTI	.284	.318	.079	.892	.374	-.346	.913	.092	.079	.077	.938	1.067
	Age	.006	.008	.075	.825	.411	-.009	.021	.081	.073	.071	.908	1.102
	Gender	-.059	.154	-.034	-.385	.701	-.364	.245	-.026	-.034	-.033	.962	1.039
	Black	.000	.296	.000	-.001	.999	-.587	.586	-.031	.000	.000	.960	1.041
	Indian	.981	.892	.095	1.100	.273	-.784	2.745	.096	.097	.095	.990	1.010
	Asian	-.330	.378	-.077	-.874	.384	-1.078	.417	-.066	-.077	-.075	.954	1.048
	Two	.453	.528	.076	.858	.392	-.591	1.497	.062	.076	.074	.956	1.046
	Education	.059	.042	.124	1.397	.165	-.025	.143	.119	.123	.120	.938	1.066

a. Dependent Variable: TRLSI

Data Analysis—Testing the Multiple Linear Regression Hypotheses for RQ_2

Hierarchical multiple linear regression was used to analyze the data associated with research question 2. Two models were run to test the hypotheses for research question 2. Model 1 included only the predictor variable *Narcissistic Personality Traits Index* (NPTI). Model 2 included the predictor variables *Narcissistic Personality Traits Index* (NPTI), *Age* (Age), *Gender* (Gender), *Education in Years* (Education), *Race-African American* (Black), *Race- American Indian or Alaska Native* (Indian), *Race-Asian* (Asian), *Race-Native Hawaiian or Other Pacific Islander* (Hawaiian), and *Race-Two or More Races* (Two Races). Because none of the respondents selected Hawaiian as their race, the variable *Race-Native Hawaiian or Other Pacific Islander* was excluded from the multiple linear regression analysis.

Testing RQ_2 Model-Fit Hypotheses

Model fit for research question 2 was evaluated by testing the following null and alternative hypotheses using a level of significance of $\alpha = .05$

H_0: $\rho^2 = 0$

H_A: $\rho^2 > 0$

where ρ^2 represents the population coefficient of determination.

The Model Summary and ANOVA tables for research question 2, which were used to test the null and alternative hypotheses, appear in Tables 17 and 18. The p-value for the model fit for RQ_2 Model 1 appears in Table 19 as .059. The null hypothesis

H_0: $\rho^2 = 0$

was supported because [(p = .059) > (α = .05)], which means that the predictor variable in Model 2 is not a statistically significant predictor of the dependent variable.

The p-value for the model fit for RQ_2 Model 2 appears in Table 18 as .589. The null hypothesis H_0: $\rho^2 = 0$ was supported because [(*p* = .589) > (α = .05)], which means that the predictor variables in Model 2 are not statistically significant predictors of the dependent variable.

Table 17
Model Summary for RQ_2.

Model Summary[c]

Model	*R*	*R* Square	Adjusted *R* Square	Std. Error of the Estimate	Durbin-Watson
1	.162[a]	.026	.019	.562261803	
2	.220[b]	.049	-.011	.570773584	1.583

a. Predictors: (Constant), NPTI
b. Predictors: (Constant), NPTI, Indian, Asian, Black, Two, Gender, Education, Age
c. Dependent Variable: TALSI

Table 18
ANOVA Table for RQ_2

ANOVA[a]

Model		Sum of Squares	*df*	Mean Square	*F*	Sig.
1	Regression	1.151	1	1.151	3.640	.059[b]
	Residual	42.679	135	.316		
	Total	43.829	136			
2	Regression	2.129	8	.266	.817	.589[c]
	Residual	41.700	128	.326		
	Total	43.829	136			

a. Dependent Variable: TALSI
b. Predictors: (Constant), NPTI
c. Predictors: (Constant), NPTI, Indian, Asian, Black, Two, Gender, Education, Age

Examining model fit for RQ_2 Model 1 in Table 17, R^2 = .026 and adjusted R^2 = .019. The value of R^2 indicates when only the Narcissistic Personality Traits Index is used as a predictor, only 2.6% of the variability in the outcome variable, *Transactional Leadership Style Index*, was explained. That is, 97.4% of the variability in the outcome variable was not explained by the predictor variable. The adjusted R^2 value illustrates that the predictor variable was such a poor predictor that even less of the variability in the outcome variable was explained for the multiple linear regression model associated with the population.

All of the predictor variables (*Narcissistic Personality Traits Index, Age, Gender, Race*, and *Education in Years*) were included in RQ_2 Model 2, which resulted in R^2 = .049 and adjusted = -.011. The value of R^2 indicates that when all of the variables were used as predictors, only 4.9% of the variability in the outcome variable, *Transactional Leadership Style Index*, was explained. That is, 95.1% of the variability in the outcome variable was not explained by the predictor variables. The adjusted R^2 value illustrates that all of the predictor variables were such poor predictors that even less of the variability in the outcome variable was explained for the multiple linear regression model associated with the population.

Testing RQ_2 Hypotheses for the Regression Coefficients

Despite the fact that both of the two null hypotheses for model fit for RQ_2 Models 1 and 2 were supported, a decision was made to test the hypotheses for the regression coefficients for the two models.

For research question 2 Model 1, the regression coefficient was evaluated by testing the following null and alternative hypotheses using a level of significance of $\alpha = .05$

H_0i: $\beta_i = 0$

H_Ai: $\beta_i \neq 0$

for i = 0, 1 and where (a) β_0 is the population regression coefficient for the y-intercept and (b) β_1 is the population regression coefficient for the independent variable *Narcissistic Personality Traits Index* (X_1).

The SPSS results relating to the regression coefficients appear in Table 19, which provides the relevant statistics for testing the hypotheses associated with the regression coefficients. The p-value for the null hypothesis for β_0 for RQ_2 Model 1 appears in Table 21 as .000. The null hypothesis H_0: $\beta_0 = 0$ was not supported because $[(p < .0005) < (\alpha/2 = .025)]$, which means that the y-intercept for Model 1 is a statistically significant predictor of the dependent variable. However, as was discussed in chapter 3, whether or not the y-intercept is statistically significant is meaningless in terms of interpreting the multiple linear regression results because the y-intercept is simply the arithmetic mean of the outcome or dependent variable.

The p-value for the null hypothesis for β_1 for RQ_2 Model 1 appears in Table 19 as .284. The null hypothesis H_0: $\beta_1 = 0$ was supported because $[(p = .059) > (\alpha/2 = .025)]$, which means that the regression coefficient for the predictor variable *Narcissistic Personality Traits Index* (NPTI) in Model 1 is not a statistically significant predictor of the dependent variable. This result is consistent with the previous result that supported

the null hypothesis for model fit H_0: $\rho^2 = 0$. However, the result is contradicted by the fact that the Pearson's linear correlation coefficient in Table 10 for the predictor variable *Narcissistic Personality Traits Index* (NPTI) and the outcome variable *Transactional Leadership Style Index* (r = -.162) was significant (i.e., the null hypothesis $\rho = 0$ was not supported because [(p = .029) < (α = .05)]). This difference in result can be explained by the fact that (a) the p-value of .059 for the null hypothesis test H_0: $\beta_1 = 0$ was fairly close to the critical value of $\alpha/2$ = .025, (b) the p-value of .029 for the null hypothesis test H_0: $\rho = 0$ for the Pearson's correlation coefficient was fairly close to the critical value of α = .05, and (c) the multiple linear regression statistical model is different than the Pearson's correlation coefficient statistical model.

For research question 2 Model 2, the regression coefficients were evaluated by testing the following null and alternative hypotheses using a level of significance of α = .05

H_0i: $\beta_i = 0$

H_Ai: $\beta_i \neq 0$

for i = 0, 1, 2, …, 9 and where (a) β_0 is the y-intercept, (b) β_1 is the population regression coefficient for the independent variable *Narcissistic Personality Traits Index* (X_1), (b) β_2 is the population regression coefficient for the control variable *Age* (X_1), (c) β_3 is the population regression coefficient for the control variable *Gender* (X_3), (d) β_4 is the population regression coefficient for the control variable *Education in Years* (X_4), (e) β_5 is the population regression coefficient for the dummy control variable *Race-African American* (X_5), (f) β_6 is the population regression coefficient for the dummy control

variable *Race-American Indian or Alaska Native* (X_6), (g) β_7 is the population regression coefficient for the dummy control variable *Race-Asian* (X_7), (h) β_8 is the population regression coefficient for the dummy control variable *Race-Native Hawaiian or Other Pacific Islander* (X_8), and (i) β_9 is the population regression coefficient for the dummy control variable *Race-Two or More Races* (X_9).

The p-value for the null hypothesis for β_0 for RQ_2 Model 2 appears in Table 19 as .000. The null hypothesis H_0: $\beta_0 = 0$ was not supported because $[(p < .0005) < (\alpha/2 = .025)]$, which means that the y-intercept for Model 2 is a statistically significant predictor of the dependent variable. However, as was discussed in chapter 3, whether or not the y-intercept is statistically significant is meaningless in terms of interpreting the multiple linear regression results because the y-intercept is simply the arithmetic mean of the outcome or dependent variable.

The null hypothesis H_0: $\beta_1 = 0$ was supported because $[(p = .110) > (\alpha/2 = .025)]$, which means that the regression coefficient for the predictor variable *Narcissistic Personality Traits Index* (NPTI) in Model 2 is not a statistically significant predictor of the dependent variable. This result is consistent with the previous result that supported the null hypothesis for model fit H_0: $\rho^2 = 0$. However, the result is contradicted by the fact that the Pearson's linear correlation coefficient in Table 10 for the predictor variable *Narcissistic Personality Traits Index* (NPTI) and the outcome variable *Transactional Leadership Style Index* ($r = -.162$) was significant (i.e., the null hypothesis $\rho = 0$ was not supported because $[(p = .029) < (\alpha = .05)]$). Again, this difference in result can be explained by the fact that (a) the p-value of .059 for the null hypothesis test H_0: $\beta_1 = 0$

was fairly close to the critical value of $\alpha/2 = .025$, (b) the p-value of .029 for the null hypothesis test H_0: $\rho = 0$ for the Pearson's correlation coefficient was fairly close to the critical value of $\alpha = .05$, and (c) the multiple linear regression statistical model is different than the Pearson's correlation coefficient statistical model.

The null hypothesis H_0: $\beta_2 = 0$ was supported because [($p = .940$) > ($\alpha/2 = .025$)], which means that the regression coefficient for the predictor variable *Age* (Age) in Model 2 is not a statistically significant predictor of the dependent variable. This result is confirmed by the fact that the Pearson's linear correlation coefficient in Table 10 for the predictor variable *Age* (Age) and the outcome variable *Transactional Leadership Style Index* ($r = -.063$) was not significant (i.e., the null hypothesis $\rho = 0$ was not supported because [($p = .232$) > ($\alpha = .05$)]).

The null hypothesis H_0: $\beta_3 = 0$ was supported because [($p = .383$) > ($\alpha/2 = .025$)], which means that the regression coefficient for the predictor variable *Gender* (Gender) in Model 2 is not a statistically significant predictor of the dependent variable. This result is confirmed by the fact that the Pearson's linear correlation coefficient in Table 10 for the predictor variable *Gender* (Gender) and the outcome variable *Transactional Leadership Style Index* ($r = -.066$) was not significant (i.e., the null hypothesis $\rho = 0$ was not supported because [($p = .223$) > ($\alpha = .05$)]).

The null hypothesis H_0: $\beta_4 = 0$ was supported because [($p = .885$) > ($\alpha/2 = .025$)], which means that the regression coefficient for the predictor variable *Education in Years* (Education) in Model 2 is not a statistically significant predictor of the dependent variable. This result is confirmed by the fact that the Pearson's linear correlation

coefficient in Table 10 for the predictor variable *Education in Years* (Education) and the outcome variable *Transactional Leadership Style Index* (r = .004) was not significant (i.e., the null hypothesis $\rho = 0$ was not supported because [(p = .480) > (α = .05)]).

The null hypothesis H_0: $\beta_5 = 0$ was supported because [(p = .225) > ($\alpha/2$ = .025)], which means that the regression coefficient for the predictor variable *Race-African American* (Black) in Model 2 is not a statistically significant predictor of the dependent variable. This result is confirmed by the fact that the Pearson's linear correlation coefficient in Table 10 for the predictor variable *Race-African American* (Black) and the outcome variable *Transactional Leadership Style Index* (r = .103) was not significant (i.e., the null hypothesis $\rho = 0$ was not supported because [(p = .116) > (α = .05)]).

The null hypothesis H_0: $\beta_6 = 0$ was supported because [(p = .971) > ($\alpha/2$ = .025)], which means that the regression coefficient for the predictor variable *Race-American Indian or Alaska Native* (Indian) in Model 2 is not a statistically significant predictor of the dependent variable. This result is confirmed by the fact that the Pearson's linear correlation coefficient in Table 10 for the predictor variable *Race-American Indian or Alaska Native* (Indian) and the outcome variable *Transactional Leadership Style Index* (r = -.007) was not significant (i.e., the null hypothesis $\rho = 0$ was not supported because [(p = .470) > (α = .05)]).

The null hypothesis H_0: $\beta_7 = 0$ was supported because [(p = .971) > ($\alpha/2$ = .025)], which means that the regression coefficient for the predictor variable *Race-Asian* (Asian) in Model 2 is not a statistically significant predictor of the dependent variable. This result is confirmed by the fact that the Pearson's linear correlation coefficient in Table 10

for the predictor variable *Race-Asian* (Asian) and the outcome variable *Transactional Leadership Style Index* (r = .000) was not significant (i.e., the null hypothesis $\rho = 0$ was not supported because [(p = .498) > (α = .05)]).

The null hypothesis H_0: $\beta_8 = 0$ was not evaluated because no responses were received for the predictor variable *Race-Hawaiian or Alaska Native* (Hawaiian).

The null hypothesis H_0: $\beta_9 = 0$ was supported because [(p = .314) > ($\alpha/2$ = .025)], which means that the regression coefficient for the predictor variable *Race-Two or More Races* (Two Races) in Model 2 is not a statistically significant predictor of the dependent variable. This result is confirmed by the fact that the Pearson's linear correlation coefficient in Table 10 for the predictor variable *Race-Two or More Races* (Two Races) and the outcome variable *Transactional Leadership Style Index* (r = .099) was not significant (i.e., the null hypothesis $\rho = 0$ was not supported because [(p = .125) > (α = .05)]).

In conclusion, the results from testing the hypotheses were consistent with the results of testing the hypotheses associated with model fit.

Table 19

Regression Coefficients for RQ_2 (Transactional Leadership Style Index (DV))

Coefficients[a]													
		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	3.717	.313		11.864	.000	3.097	4.336					
	NPTI	-.374	.196	-.162	-1.908	.059	-.761	.014	-.162	-.162	-.162	1.000	1.000
2	(Constant)	3.740	.437		8.549	.000	2.874	4.605					
	NPTI	-.331	.205	-.143	-1.611	.110	-.737	.076	-.162	-.141	-.139	.938	1.067
	Age	.000	.005	-.007	-.076	.940	-.010	.009	-.063	-.007	-.007	.908	1.102
	Gender	-.087	.099	-.077	-.875	.383	-.284	.110	-.066	-.077	-.075	.962	1.039
	Black	.233	.191	.107	1.218	.225	-.146	.612	.103	.107	.105	.960	1.041
	Indian	.021	.576	.003	.036	.971	-1.119	1.160	-.007	.003	.003	.990	1.010
	Asian	.009	.244	.003	.036	.971	-.474	.492	.000	.003	.003	.954	1.048
	Two	.345	.341	.089	1.012	.314	-.329	1.019	.099	.089	.087	.956	1.046
	Education	.004	.027	.013	.145	.885	-.050	.058	.004	.013	.012	.938	1.066

a. Dependent Variable: TALSI

Data Analysis—Testing the Multiple Linear Regression Hypotheses for RQ_3

Hierarchical multiple linear regression was used to analyze the data associated with research question 3. Two models were run to test the hypotheses for research question 3. Model 1 included only the predictor variable *Narcissistic Personality Traits Index* (NPTI). Model 2 included the predictor variables *Narcissistic Personality Traits Index* (NPTI), *Age* (Age), *Gender* (Gender), *Education in Years* (Education), *Race-African American* (Black), *Race- American Indian or Alaska Native* (Indian), *Race-Asian* (Asian), *Race-Native Hawaiian or Other Pacific Islander* (Hawaiian), and *Race-Two or More Races* (Two Races). Because none of the respondents selected Hawaiian as their race, the variable *Race-Native Hawaiian or Other Pacific Islander* was excluded from the multiple linear regression analysis.

Testing RQ_3 Model-Fit Hypotheses

Model fit for research question 3 was evaluated by testing the following null and alternative hypotheses using a level of significance of $\alpha = .05$

H_0: $\rho^2 = 0$

H_A: $\rho^2 > 0$

where ρ^2 represents the population coefficient of determination.

The Model Summary and ANOVA tables for research question 3, which were used to test the null and alternative hypotheses, appear in Tables 20 and 21. The p-value for the model fit for RQ_3 Model 1 appears in Table 20 as .001. The null hypothesis

H_0: $\rho^2 = 0$

was not supported because [(p = .001) < (α = .05)], which means that the predictor variable in Model 1 is a statistically significant predictor of the dependent variable.

The p-value for the model fit for RQ_3 Model 2 appears in Table 21 as .004. The null hypothesis H_0: $\rho^2 = 0$ was not supported because [(p = .004) < (α = .05)], which means that the predictor variables in Model 2 are statistically significant predictors of the dependent variable.

Table 20
Model Summary for RQ_3

Model Summary[c]

Model	*R*	*R* Square	Adjusted *R* Square	Std. Error of the Estimate	Durbin-Watson
1	.274[a]	.075	.068	1.072339187	
2	.399[b]	.160	.107	1.049740046	1.986

a. Predictors: (Constant), NPTI
b. Predictors: (Constant), NPTI, Indian, Asian, Black, Two, Gender, Education, Age
c. Dependent Variable: LFLSI

Table 21
ANOVA Table for RQ_3

ANOVA[a]

Model		Sum of Squares	*df*	Mean Square	*F*	Sig.
1	Regression	12.583	1	12.583	10.943	.001[b]
	Residual	155.238	135	1.150		
	Total	167.821	136			
2	Regression	26.771	8	3.346	3.037	.004[c]
	Residual	141.050	128	1.102		
	Total	167.821	136			

a. Dependent Variable: LFLSI
b. Predictors: (Constant), NPTI
c. Predictors: (Constant), NPTI, Indian, Asian, Black, Two, Gender, Education, Age

Examining model fit for RQ_3 Model 1 in Table 20, R^2 = .075 and adjusted R^2 = .068. The value of R^2 indicates when only the *Narcissistic Personality Traits Index* is used as a predictor, only 7.5% of the variability in the outcome variable, *Laissez-Faire Leadership Style Index*, was explained. That is, 92.5% of the variability in the outcome variable was not explained by the predictor variable. The adjusted R^2 value illustrates that the predictor variable was a reasonably good predictor such that about 75% of the variability in the outcome variable was explained for the multiple linear regression model associated with the population.

All of the predictor variables (*Narcissistic Personality Traits Index, Age, Gender, Race,* and *Education in Years*) were included in RQ_3 Model 2, which resulted in R^2 = .160 and adjusted = .107. The value of R^2 indicates that when all of the variables were used as predictors, 16.0% of the variability in the outcome variable, *Laissez-Faire Leadership Style Index*, was explained. That is, 84.0% of the variability in the outcome variable was not explained by the predictor variables. The adjusted R^2 value illustrates that adding the remaining predictor variables increased the amount of variability in the outcome variable that was explained but were such marginal predictors that only about 66.9% of the variability in the outcome variable was explained for the multiple linear regression model associated with the population.

Testing RQ_3 Hypotheses for the Regression Coefficients

Despite the fact that both of the two null hypotheses for model fit for RQ_3 Models 1 and 2 were supported, a decision was made to test the hypotheses for the regression coefficients for the two models.

For research question 3 Model 1, the regression coefficient was evaluated by testing the following null and alternative hypotheses using a level of significance of $\alpha = .05$

H_0i: $\beta_i = 0$

H_Ai: $\beta_i \neq 0$

For i = 0, 1 and where (a) β_0 is the population regression coefficient for the y-intercept and (b) β_1 is the population regression coefficient for the independent variable *Narcissistic Personality Traits Index* (x_1).

The SPSS results relating to the regression coefficients appear in Table 22, which provides the relevant statistics for testing the hypotheses associated with the regression coefficients. The p-value for the null hypothesis for β_0 for RQ_3 Model 1 appears in Table 22 as .000. The null hypothesis H_0: $\beta_0 = 0$ was not supported because $[(p < .0005) < (\alpha/2 = .025)]$, which means that the y-intercept for Model 1 is a statistically significant predictor of the dependent variable. However, as was discussed in chapter 3, whether or not the y-intercept is statistically significant is meaningless in terms of interpreting the multiple linear regression results because the y-intercept is simply the arithmetic mean of the outcome or dependent variable.

The p-value for the null hypothesis for β_1 for RQ_3 Model 1 appears in Table 22 as .001. The null hypothesis H_0: $\beta_1 = 0$ was not supported because $[(p = .001) < (\alpha/2 = .025)]$, which means that the regression coefficient for the predictor variable *Narcissistic Personality Traits Index* (NPTI) in Model 1 is a statistically significant predictor of the dependent variable. This result is consistent with the previous

result that did not support the null hypothesis for model fit H_0: $\rho^2 = 0$. The result is also consistent with the fact that the Pearson's linear correlation coefficient in Table 11 for the predictor variable *Narcissistic Personality Traits Index* (NPTI) and the outcome variable *Laissez-Faire Leadership Style Index* (r = -.274) was significant (i.e., the null hypothesis $\rho = 0$ was not supported because [(p = .001) < (α = .05)]).

For research question 3 Model 2, the regression coefficients were evaluated by testing the following null and alternative hypotheses using a level of significance of $\alpha = .05$

H_0i: $\beta_i = 0$

H_Ai: $\beta_i \neq 0$

for i = 0, 1, 2, …, 9 and where (a) β_0 is the y-intercept, (b) β_1 is the population regression coefficient for the independent variable *Narcissistic Personality Traits Index* (X_1), (b) β_2 is the population regression coefficient for the control variable *Age* (X_1), (c) β_3 is the population regression coefficient for the control variable *Gender* (X_3), (d) β_4 is the population regression coefficient for the control variable *Education in Years* (X_4), (e) β_5 is the population regression coefficient for the dummy control variable *Race-African American* (X_5), (f) β_6 is the population regression coefficient for the dummy control variable *Race-American Indian or Alaska Native* (X_6), (g) β_7 is the population regression coefficient for the dummy control variable *Race-Asian* (X_7), (h) β_8 is the population regression coefficient for the dummy control variable *Race-Native Hawaiian or Other Pacific Islander* (X_8), and (i) β_9 is the population regression coefficient for the dummy control variable *Race-Two or More Races* (X_9).

The p-value for the null hypothesis for β_0 for RQ3 Model 2 appears in Table 22 as .000. The null hypothesis H_0: $\beta_0 = 0$ was not supported because [($p < .0005$) < ($\alpha/2 = .025$)], which means that the y-intercept for Model 2 is a statistically significant predictor of the dependent variable. However, as was discussed in chapter 3, whether or not the y-intercept is statistically significant is meaningless in terms of interpreting the multiple linear regression results because the y-intercept is simply the arithmetic mean of the outcome or dependent variable.

The null hypothesis H_0: $\beta_1 = 0$ was not supported because [($p = .005$) < ($\alpha/2 = .025$)], which means that the regression coefficient for the predictor variable *Narcissistic Personality Traits Index* (NPTI) in Model 2 is a statistically significant predictor of the dependent variable. This result is consistent with the previous result that did not support the null hypothesis for model fit H_0: $\rho^2 = 0$. The result is also consistent with the fact that the Pearson's linear correlation coefficient in Table 11 for the predictor variable *Narcissistic Personality Traits Index* (NPTI) and the outcome variable *Laissez-Faire Leadership Style Index* ($r = -.274$) was significant (i.e., the null hypothesis $\rho = 0$ was not supported because [($p = .001$) < ($\alpha = .05$)])

The null hypothesis H_0: $\beta_2 = 0$ was supported because [($p = .082$) > ($\alpha/2 = .025$)], which means that the regression coefficient for the predictor variable *Age* (Age) in Model 2 is not a statistically significant predictor of the dependent variable. This result is confirmed by the fact that the Pearson's linear correlation coefficient in Table 11 for the predictor variable *Age* (Age) and the outcome variable *Laissez-Faire Leadership Style*

Index (r = -.063) was not significant (i.e., the null hypothesis $\rho = 0$ was not supported because [(p = .232) > (α = .05)]).

The null hypothesis H_0: $\beta_3 = 0$ was supported because [(p = .487) > ($\alpha/2$ = .025)], which means that the regression coefficient for the predictor variable *Gender* (Gender) in Model 2 is not a statistically significant predictor of the dependent variable. This result is confirmed by the fact that the Pearson's linear correlation coefficient in Table 11 for the predictor variable *Gender* (Gender) and the outcome variable *Laissez-Faire Leadership Style Index x* (r = .060) was not significant (i.e., the null hypothesis $\rho = 0$ was not supported because [(p = .242) > (α = .05)]).

The null hypothesis H_0: $\beta_4 = 0$ was supported because [(p = .063) > ($\alpha/2$ = .025)], which means that the regression coefficient for the predictor variable *Education in Years* (Education) in Model 2 is not a statistically significant predictor of the dependent variable. However, the result is contradicted by the fact that the Pearson's linear correlation coefficient in Table 11 for the predictor variable *Education in Years* (Education) and the outcome variable *Laissez-Faire Leadership Style Index* (r = -.185) was significant (i.e., the null hypothesis $\rho = 0$ was not supported because [(p = .015) < (α = .05)]). This difference in result can be explained by the fact that (a) the p-value of .063 for the null hypothesis test H_0: $\beta_1 = 0$ was fairly close to the critical value of $\alpha/2$ = .025, (b) the p-value of .015 for the null hypothesis test H_0: $\rho = 0$ for the Pearson's correlation coefficient was fairly close to the critical value of α = .05, and (c) the multiple linear regression statistical model is different than the Pearson's correlation coefficient statistical model.

The null hypothesis H_0: $\beta_5 = 0$ was supported because [(p = .216) > ($\alpha/2$ = .025)], which means that the regression coefficient for the predictor variable *Race-African American* (Black) in Model 2 is not a statistically significant predictor of the dependent variable. However, the result is contradicted by the fact that the Pearson's linear correlation coefficient in Table 11 for the predictor variable *Race-African American* (Black) and the outcome variable *Laissez-Faire Leadership Style Index x* (r = .160) was significant (i.e., the null hypothesis $\rho = 0$ was not supported because [(p = .031) < (α = .05)]). This difference in result can be explained by the fact that (a) the p-value of .216 for the null hypothesis test H_0: $\beta_1 = 0$ was moderately close to the critical value of $\alpha/2$ = .025, (b) the p-value of .031 for the null hypothesis test H_0: $\rho = 0$ for the Pearson's correlation coefficient was fairly close to the critical value of α = .05, and (c) the multiple linear regression statistical model is different than the Pearson's correlation coefficient statistical model.

The null hypothesis H_0: $\beta_6 = 0$ was supported because [(p = .229) > ($\alpha/2$ = .025)], which means that the regression coefficient for the predictor variable *Race-American Indian or Alaska Native* (Indian) in Model 2 is not a statistically significant predictor of the dependent variable. This result is confirmed by the fact that the Pearson's linear correlation coefficient in Table 11 for the predictor variable *Race-American Indian or Alaska Native* (Indian) and the outcome variable *Laissez-Faire Leadership Style Index* (r = -.100) was not significant (i.e., the null hypothesis $\rho = 0$ was not supported because [(p = .122) > (α = .05)]).

The null hypothesis H_0: $\beta_7 = 0$ was supported because [(p = .835) > ($\alpha/2$ = .025)], which means that the regression coefficient for the predictor variable *Race-Asian* (Asian) in Model 2 is not a statistically significant predictor of the dependent variable. This result is confirmed by the fact that the Pearson's linear correlation coefficient in Table 11 for the predictor variable *Race-Asian* (Asian) and the outcome variable *Laissez-Faire Leadership Style Index* (r = .000) was not significant (i.e., the null hypothesis $\rho = 0$ was not supported because [(p = .500) > (α = .05)]).

The null hypothesis H_0: $\beta_8 = 0$ was not evaluated because no responses were received for the predictor variable *Race-Hawaiian or Alaska Native* (Hawaiian).

The null hypothesis H_0: $\beta_9 = 0$ was supported because [(p = .173) > ($\alpha/2$ = .025)], which means that the regression coefficient for the predictor variable *Race-Two or More Races* (Two Races) in Model 2 is not a statistically significant predictor of the dependent variable. This result is confirmed by the fact that the Pearson's linear correlation coefficient in Table 11 for the predictor variable *Race-Two or More Races* (Two Races) and the outcome variable *T Laissez-Faire Leadership Style Index* (r = -.073) was not significant (i.e., the null hypothesis $\rho = 0$ was not supported because [(p = .197) > (α = .05)]).

In conclusion, the results from testing the hypotheses for RQ_3 were consistent with the results of testing the hypotheses associated with model fit. The regression equation for research question 3 Model 1 and Model 2 is

$$\hat{y}_i = 5.220 - 1.236 * x_{1i}$$

for i = 1, 2, …, n, where (a) n is the sample size, (b) $\hat{y}_i$ is the i^{th} computed value of the outcome variable *Laissez-Faire Leadership Style Index*, (c) 5.220 is the value of the y-intercept, (d) -1.236 is the sample regression coefficient for the i^{th} value of the predictor variable *Narcissistic Personality Traits Index*, and (e) x_{1i} is the i^{th} value of the predictor variable *Narcissistic Personality Traits Index* (x_1). The regression equation for research question 3 Model 1 and Model 2 are the same because none of the regression coefficients for any of the predictor variables other than the *Narcissistic Personality Traits Index* were statistically significant.

Table 22

Regression Coefficients for RQ_3 (Laissez-Faire Leadership Style Index (DV))

Coefficients[a]												
		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	4.245	.598		7.105	.000	3.063	5.427					
	NPTI	-1.236	.374	-.274	-3.308	.001	-1.975	-.497	-.274	-.274	-.274	1.000	1.000
2	(Constant)	5.220	.805		6.488	.000	3.628	6.812					
	NPTI	-1.085	.378	-.240	-2.871	.005	-1.832	-.337	-.274	-.246	-.233	.938	1.067
	Age	-.016	.009	-.149	-1.749	.083	-.034	.002	-.179	-.153	-.142	.908	1.102
	Gender	.127	.183	.058	.696	.487	-.235	.489	.060	.061	.056	.962	1.039
	Black	.438	.352	.103	1.244	.216	-.259	1.134	.160	.109	.101	.960	1.041
	Indian	-1.280	1.059	-.098	-1.208	.229	-3.375	.816	-.100	-.106	-.098	.990	1.010
	Asian	.094	.449	.017	.209	.835	-.794	.981	.000	.018	.017	.954	1.048
	Two	-.859	.627	-.114	-1.370	.173	-2.099	.381	-.073	-.120	-.111	.956	1.046
	Education	-.094	.050	-.157	-1.877	.063	-.194	.005	-.185	-.164	-.152	.938	1.066

a. Dependent Variable: LFLSI

Summary of Results

Three hierarchical linear regression models were used to analyze the data for the three research questions. The results are summarized in Table 23. The variables appearing in Table 23 are defined as follows

1. x_0 is the y-intercept.
2. x_1 is the predictor variable *Narcissistic Personality Traits Index*.
3. x_2 is the predictor variable *Age*.
4. x_3 is the predictor variable *Gender*.
5. x_4 is the predictor variable *Education in Years*.
6. x_5 is the predictor variable *Race-African American*.
7. x_6 is the predictor variable *Race-American Indian or Alaska Native*.
8. x_7 is the predictor variable *Race-Asian*.
9. x_8 is the predictor variable *Race-Hawaiian or Other Pacific Islander* (not analyzed because no responses).
10. x_9 is the predictor variable *Race-Two or More Races*.

Discussions of the summary table results for the three research questions appear in the following three subsections.

RQ_1. The results of the hypothesis tests for both Model 1 and Model 2 for research question 1 found no statistically significant relationship between any of the predictor variables (*Narcissistic Personality Traits Index*, *Age*, *Gender*, *Education in Years*, *Race-African American*, *Race-American Indian or Alaska Native*, *Race-Asian*, and *Race-Two or More Races*) and the outcome variable (*Transformational Leadership Style*

Table 23 *Summary Table of Model Fit and Regression Coefficient Null Hypothesis Testing.*

Research Question	Model	Variable	Null Hypothesis	p-value	α-value	H_0 Decision	R^2
RQ1	1	NA	$H_0: \rho^2 = 0$	0.284	0.050	Supported	0.008
		x_0	$H_0: \beta_0 = 0$	0.000	0.025	Not Supported	
		x_1	$H_0: \beta_1 = 0$	0.284	0.025	Supported	
RQ1	2	NA	$H_0: \rho^2 = 0$	0.597	0.050	Supported	0.048
		x_0	$H_0: \beta_0 = 0$	0.000	0.025	Not Supported	
		x_1	$H_0: \beta_1 = 0$	0.374	0.025	Supported	
		x_2	$H_0: \beta_2 = 0$	0.411	0.025	Supported	
		x_3	$H_0: \beta_3 = 0$	0.701	0.025	Supported	
		x_4	$H_0: \beta_4 = 0$	0.165	0.025	Supported	
		x_5	$H_0: \beta_5 = 0$	0.999	0.025	Supported	
		x_6	$H_0: \beta_6 = 0$	0.273	0.025	Supported	
		x_7	$H_0: \beta_7 = 0$	0.384	0.025	Supported	
		x_8	$H_0: \beta_8 = 0$	NA	NA	NA	
		x_9	$H_0: \beta_9 = 0$	0.392	0.025	Supported	
RQ2	1	NA	$H_0: \rho^2 = 0$	0.059	0.050	Supported	0.026
		x_0	$H_0: \beta_0 = 0$	0.000	0.025	Not Supported	
		x_1	$H_0: \beta_1 = 0$	0.059	0.025	Supported	
RQ2	2	NA	$H_0: \rho^2 = 0$	0.589	0.050	Supported	0.049
		x_0	$H_0: \beta_0 = 0$	0.000	0.025	Not Supported	
		x_1	$H_0: \beta_1 = 0$	0.110	0.025	Supported	
		x_2	$H_0: \beta_2 = 0$	0.940	0.025	Supported	
		x_3	$H_0: \beta_3 = 0$	0.383	0.025	Supported	
		x_4	$H_0: \beta_4 = 0$	0.885	0.025	Supported	
		x_5	$H_0: \beta_5 = 0$	0.325	0.025	Supported	
		x_6	$H_0: \beta_6 = 0$	0.971	0.025	Supported	
		x_7	$H_0: \beta_7 = 0$	0.971	0.025	Supported	
		x_8	$H_0: \beta_8 = 0$	NA	NA	NA	
		x_9	$H_0: \beta_9 = 0$	0.314	0.025	Supported	
RQ3	1	NA	$H_0: \rho^2 = 0$	0.001	0.050	Not Supported	0.075
		x_0	$H_0: \beta_0 = 0$	0.000	0.025	Not Supported	
		x_1	$H_0: \beta_1 = 0$	0.001	0.025	Not Supported	
RQ3	2	NA	$H_0: \rho^2 = 0$	0.004	0.050	Not Supported	0.160
		x_0	$H_0: \beta_0 = 0$	0.000	0.025	Not Supported	
		x_1	$H_0: \beta_1 = 0$	0.005	0.025	Not Supported	
		x_2	$H_0: \beta_2 = 0$	0.083	0.025	Supported	
		x_3	$H_0: \beta_3 = 0$	0.487	0.025	Supported	
		x_4	$H_0: \beta_4 = 0$	0.063	0.025	Supported	
		x_5	$H_0: \beta_5 = 0$	0.216	0.025	Supported	
		x_6	$H_0: \beta_6 = 0$	0.229	0.025	Supported	
		x_7	$H_0: \beta_7 = 0$	0.835	0.025	Supported	
		x_8	$H_0: \beta_8 = 0$	NA	NA	NA	
		x_9	$H_0: \beta_9 = 0$	0.173	0.025	Supported	

Index) because the null hypotheses were supported for the model fit and all predictor variables.

RQ_2. The results of the hypothesis tests for both Model 1 and Model 2 for research question 2 found no statistically significant relationship between any of the predictor variables (*Narcissistic Personality Traits Index*, *Age*, *Gender*, *Education in Years*, *Race-African American*, *Race-American Indian or Alaska Native*, *Race-Asian*, and *Race-Two or More Races*) and the outcome variable (*Transactional Leadership Style Index*) because the null hypotheses were supported for the model fit and all predictor variables.

RQ_3. The results of the hypothesis tests for both Model 1 and Model 2 for research question 3 found that a statistically significant relationship existed between some of the predictor variables (*Narcissistic Personality Traits Index*, *Age*, *Gender*, *Education in Years*, *Race-African American*, *Race-American Indian or Alaska Native*, *Race-Asian*, and *Race-Two or More Races*) and the outcome variable (*Laissez-Faire Leadership Style Index*) because the null hypotheses were not supported for (a) the model fit and the one predictor variable in Model 1 and (b) for the model fit and three of the eight tested predictor variables for Model 2.

That is, for Model 1

(1) The model fit null hypothesis H_0: $\rho^2 = 0$ was not supported because [(p = .001) < (α = .05)], which means that the model was a good predictor of the outcome variable.

(2) The null hypothesis H_0: $\beta_1 = 0$ was not supported because [($p = .001$) < ($\alpha = .025$)], which means that the predictor variable *Narcissistic Personality Traits Index* is a statistically significant predictor of the dependent variable *Laissez-Faire Leadership Style Index.*

For Model 2

(1) The model fit null hypothesis H_0: $\rho^2 = 0$ was not supported because [($p = .004$) < ($\alpha = .05$)], which means that the model was a good predictor of the outcome variable.

(2) The null hypothesis H_0: $\beta_1 = 0$ was not supported because [($p = .005$) < ($\alpha = .025$)], which means that the predictor variable *Narcissistic Personality Traits Index* is a statistically significant predictor of the dependent variable *Laissez-Faire Leadership Style Index.*

(3) The null hypotheses H_0: $\beta_i = 0$ were supported for i = 2, 3, …, 9 because the p-values for all of the respective regression coefficients was > ($\alpha = .025$), which means that the predictor variables *Age, Gender, Education in Years, Race-African American, Race-American Indian or Alaska Native, Race-Asian,* and *Race-Two or More Races* are not statistically significant predictors of the dependent variable *Laissez-Faire Leadership Style Index*.

Conclusion

The hierarchical multiple linear regression results for the null hypotheses for research questions 1 and 2 (H_0: $\rho^2 = 0$ and H_0: $\beta_i = 0$ for i = 1, 2, …, 9) demonstrated support for the null hypotheses that there is no statistically significant relationship

between the *Narcissistic Personality Traits Index* (IV), *Age* (CV), *Gender* (CV), *Education in Years* (CV), *Race-African American* (CV), *Race-American Indian or Alaska Native* (CV), *Race-Asian* (CV), and *Race-Two or More Races* (CV) and the two dependent variables for research question 1 (*Transformational Leadership Style Index*) and research question 2 (*Transactional Leadership Style Index*). In contrast, the hierarchical multiple linear regression results for the null hypotheses for research question 3 (H_0: $\rho^2 = 0$ and H_0: $\beta_i = 0$ for i = 1, 2, …, 9) demonstrated no support for the null hypotheses that there is a statistically significant relationship between the *Narcissistic Personality Traits Index* (IV) and the dependent variable *Laissez-Faire Leadership Style Index.*

These findings have implications for both theory and practice that are discussed in Chapter 5. In addition, chapter 5 includes analyses and interpretation of these results, as well as implications for both scholars and practitioners, research study limitations, and recommendations for future research.

CHAPTER 5. DISCUSSION, IMPLICATIONS, RECOMMENDATIONS

In this chapter, research study findings and their implications for theorists and practitioners are discussed. Next, the research study's hypotheses are reviewed and contributions to theory and practice are described. Finally, limitations regarding this research study and recommendations for future research are presented.

The first section of this chapter presents the study's results. The research problem and significance of the study are reiterated. A summary of the literature review presented in Chapter 2 will focus on how the current study's findings explain and extend the research literature relating narcissism to full range leadership theory (Avolio & Bass, 1991).

The next section of this chapter includes a discussion of the results from data collection, preparation, and analysis, which is followed by a presentation of research study limitations and implications for theory and practice. Next, recommendations for future research are presented based on the research design, methodology utilized, and results of data analysis. Finally, the conclusion summarizes the important results and implications of the research study.

Summary of the Results

Research Problem

The research literature on the relationship between narcissistic personality traits and leadership styles indicated that leaders with narcissistic personality traits have negative effects on organizations (Conger, 1990). Previously published research studies

have also found that the same personality traits that create great leaders also have the potential to be extremely destructive to organizations (Resik et al., 2009), and also that leader personality traits are reflected in all dimensions of an organization (Resik et al., 2009). The research literature on narcissism indicated this personality trait is destructive in leaders (Chatterjee & Hambrick, 2007; Judge, LePine, & Rich, 2006; McCleskey, 2013), and that narcissistic personality traits may be found in persons with some leadership styles, such as transformational/transactional leadership (Resik et al., 2009), and charismatic leadership (Deluga, 1997; Galvin et al., 2010; Humphreys, Zhao, Gladstone, & Basham, 2010; Sankowsky, 1995; Sosik et al., 2014). However, the research literature has not investigated the relationship between narcissistic personality traits and leadership styles of mid- and upper-level managers of United States organizations.

Significance of the Study

This study is significant to the field of management and leadership by quantifying the relationship between narcissistic personality traits and leadership style. For example, study results found that narcissism does not explain transformational or transactional leadership styles; however, narcissism does explain laissez-faire leadership style. These results may infer that narcissistic leaders adopt a total lack of leadership approach and avoid decision making because they are obsessively focused on achieving personal goals.

In addition, previous studies have found relationships between narcissistic personality traits and transformational and transactional leadership styles (Resik, Whitman, Weingarden, & Hiller, 2009) and charismatic leadership style (Humphreys,

Zhao, Ingram, Gladstone, & Basham, 2010; Sosik, Chun, & Zhu, 2014; Sankowsky, 1995; Galvin, Waldman, & Balthazard, 2010). Results of this research study found narcissism in leaders relates to laissez-faire leadership style, furthering the study of the relationship between narcissism and leadership styles.

This research study advances the full range leadership theory (Avolio & Bass, 1991) by establishing that narcissism strongly relates to laissez-faire leadership style. The full range leadership theory includes three styles of leadership: transformational, transactional, and laissez-faire. Previously published research identified a relationship between narcissism and transformational leadership and narcissism and transactional leadership. This research study identified a relationship between narcissism and the laissez-faire leadership style.

Literature Review

Narcissism

Narcissism has been described as a grandiose sense of self, feelings of entitlement, and a constant need for admiration (Grijalva, Harms, Newman, Gaddis, & Fraley, 2015; Wales, Patel, & Lumpkin, 2013). Previous literature has been divided between pathological or clinical narcissism, and normal or social/personality psychology narcissism. Miller and Campbell (2008) noted that, from a perspective of social/personality psychology narcissism, narcissism is a dimensional personality and is not pathological. The focus of this research study was normal or social/personality psychology narcissism. Thus, in this chapter, only literature on social narcissism was reviewed.

Social/Personality psychology narcissism focuses on an individual's adaptive and maladaptive characteristics, viewing narcissism through a normal personality-trait lens (Roche et al., 2013). Roche et al., (2013) explained that narcissism is a normal personality trait in humans and described various stages of narcissistic development. They explained that an individual's environment during the early stages of development is when his/her self-perceptions are formed. Kets de Vries (1994) found that children who experience lack of support, abuse, or are ignored become adults that are obsessed with unhealthy, narcissistic characteristics, such as power, prestige, superiority, beauty, and status.

Sedikides et al. (2004) identified seven components that operationally define normal narcissism (a) exhibitionism, (b) autonomy, (c) entitlement, (d) superiority, (e) vanity, (f) exploitation, and (g) self-sufficiency. The authors further stated that normal narcissism has been examined in the literature using two theoretical perspectives, the big five factor structure (or the five factor model) and attachment theory.

Big Five Factor Structure/Model

McDougall (1932) initially proposed that personality can be more broadly analyzed when classified into five "distinguishable but separate factors" (page 418), which include (a) disposition, (b) temper, (c) intellect, (d) character, and € temperament (as cited by Digman, 1990). Digman also stated that subsequent research studies expanded on this construct by introducing additional factors. Ultimately, however, only five factors were identified to be significantly correlated. Glover et al. (2012) later

applied the Five Factor Model to narcissism, which they defined to be a heterogeneous construct resulting in various maladaptive personality traits.

Full Range Leadership Theory

The full range leadership theory was developed in response to the changing role of leadership that identified a need to include a broader range of leadership styles in leadership research (Avolio & Bass, 1991, 2004). The Full range leadership theory is comprised of three leadership styles (a) transformational, (b) transactional, and (c) laissez-faire. Previous literature identified the laissez-faire leadership style to be the absence of leadership (Antonakis et al., 2003; Eagly et. al., 2003; Ho et al., 2009; Toor & Ofori, 2009).

Transformational Leadership Style. Transformational leaders are communal; they mentor followers to be innovative and achieve higher goals and recognize achievements and respond to the individual needs of followers (Eagly et al., 2003). Transformational leaders also encourage followers through a shared vision and are viewed as trustworthy and committed (Ho et al., 2009). Five factors comprise transformational leadership (Antonakis et al, 2003; Ho et al., 2009) (a) idealized influence-attributed, (b) idealized influence-behavior, (c) inspirational motivation, (d) intellectual stimulation, and (e) individualized consideration. Transformational leaders cultivate followers who are trusting, empowered to be innovative, satisfied with and committed to their job and leader, and become an integral part of the team (Hamstra et al, 2014; Ho et al. 2009). Transformational leaders are viewed as trusting, visionary, caring, motivating individuals that utilize their charisma and capabilities to create and sustain a

progressive organization (Avolio & Bass, 2004; Antonakis et al., 2003; Hamstra et al., 2014).

Transactional Leadership Style. Leaders who utilize transactional leadership style focus on a contingent reward system wherein the leader assigns tasks and expected time lines to followers who receive rewards when tasks are accomplished (Hamstra et al. 2014). Avolio and Bass (2004) proposed two forms of transactional leadership, each of which have different methods to monitor and reward followers (a) constructive transactional leadership and (b) corrective transactional leadership. Constructive transactional leaders are (a) involved in the group, (b) able to identify individual capabilities prior to task assignment, and (c) specific about rewards that will be awarded when goals are achieved. Corrective transactional leaders focus on punishing mistakes or correcting errors. Passive transactional leaders wait to take action until a mistake has occurred. In contrast, active transactional leaders anticipate mistakes because they closely monitor followers.

Laissez-Faire Leadership. Laissez-faire leadership style has been defined in the literature as a total lack of leadership (Antonakis et al., 2003; Eagly, Johannesen-Schmidt, & van Engen, 2003; Ho, Fie, Ching, & Ooi, 2009; Toor & Ofori, 2009). Specifically, laissez-faire leaders are described as those who (a) are frequently absent and uninvolved during critical situations (Eagly et al.), (b) avoid decision-making, (c) abandon responsibility, (d) do not utilize their authority (Antonakis et al.), (e) do not clearly communicate expectations, (f) do not address conflicts, (g) avoid making decisions (Muenjohn et al, 2008), and (h) fail to respond to subordinate performance by

either rewarding or punishing them for their performance (Hinkin & Schriescheim, 2008). Skogstad, Hetland, Glasø, and Einarsen (2014) stated the operational definition of this style in the Multifactor Leadership Questionnaire states that the needs of the leader's subordinates are not met.

Relating Study Results to the Literature

Benefits/Costs

Kets de Vries and Miller's (1985) article was among the first to examine narcissism and leadership (as cited by Wales et al., 2013), noting that narcissism, usually viewed as negative and destructive, can also be positive and beneficial. Kets de Vries (1994) furthered his previous work by postulating that personality traits begin developing in childhood during the same time period narcissism develops in individuals based on parental responses.

The literature on narcissism and leadership has focused on the effects that narcissistic leaders have on organizations, and examined the relationship with several leadership styles, such as transformational, transactional, and charismatic leadership styles. A narcissistic leader's self-view that he/she is better than others encourages the narcissist to be overconfident in the decision-making process and make risker decisions stimulated by a strong vision for success (Campbell et al., 2004). Chatterjee and Hambrick (2007) observed that narcissistic leaders thrive on strategic dynamism, or constant change in an organization, and favor bold actions to maintain the attention of their peers and subordinates. Chatterjee and Hambrick (2007) found that narcissistic leaders take brazen actions that draw attention and praise, resulting in either extreme

successes or extreme failures. Chatterjee and Hambrick (2011) later observed in their research study results that narcissistic leaders interpret social praise as encouragement to take greater risks.

Judge et al. (2006) proposed that the self-enhancing focus of narcissistic leaders has negative effects on contextual and task performance. They observed that narcissistic leaders are more likely to focus on task performance because the likelihood that they will be recognized and rewarded is increased. Chatterjee and Hambrick's (2007) discovered that organizations led by narcissistic leaders experience more extreme firm performance (e.g., bigger gains and bigger losses) than do organizations led by non-narcissistic leaders. Wales et al. (2013) found that narcissistic leaders have a proclivity to engage in entrepreneurial orientation in order to fulfill their constant need for success and admiration. Wales et al. (2013) further observed that narcissistic leaders are attracted to entrepreneurial organizations because such organizations usually have ample resources and are not concerned with risks.

Literature on the relationship between narcissism and leadership styles has also explored benefits and/or costs to an organization. Campbell and Campbell (2009) proposed a model that presents benefits and costs, both to/for the leader and to/for followers, which occur during different stages of leadership (a) the emerging zone and (b) the enduring zone. Their model, as discussed in Chapter 2, produced several benefits and few costs to either party during the emerging zone. But during the enduring zone, followers experienced only costs and leaders had fewer benefits. Sosik et al. (2014)

proposed that charismatic leaders, who are also constructive narcissists, are significantly positively related to follower psychological empowerment and moral identity.

Literature regarding costs and benefits to an organization primarily focus on the costs rather than the benefits. Higgs (2009) depicted a narcissist leader as one who uses power and authority for personal gain and believes that rules do not apply to him/her, resulting in long-term detrimental results for both leaders and followers. Higgs also questioned whether or not constructive narcissism can sustain a positive relationship with charismatic leadership, stating that eventually constructive narcissism will lead to weakened organizational performance. Kets de Vries (2016) supports the idea that narcissistic leaders use their power and authority for personal gain. Kets de Vries examined how a narcissistic trait can lead to greed and the detrimental effects a leader with greed has on an organization.

Counterproductive work behavior is defined as acts that harm or intend to harm an organization or its stakeholders. Counterproductive work behavior includes aggression, theft, work avoidance, or deliberately performing work tasks incorrectly (Meurs et al, 2013). Meurs et al. observed that narcissistic leaders are highly linked to counterproductive work behavior, both at the individual and organizational level. Boddy (2014) proposed that corporate psychopaths (those that possess the three dark-side traits: narcissism, Machiavellianism, and psychopathy) create bullying and interpersonal conflict within an organization that result in counterproductive work behavior.

Narcissism and Leadership

The literature examining narcissism and leadership has been performed on several leadership styles (e.g., transformational, and transactional leadership styles). However, the majority of research studies have examined the relationship between narcissism and charismatic leadership. Resick et al. (2009) hypothesized that narcissism will be negatively related to transformational and transactional leadership styles. Results of their study, however, found a negative relationship between narcissism and contingent-reward transactional leadership, supporting the hypothesis that individuals with narcissistic traits lack empathy. Initially, study results did not find a significant relationship between narcissism and transformational leadership. Supplemental analysis examined only transformational leadership and narcissism. Results suggested disparate relationships exist between narcissism and transformational leadership. Further, results identified strong negative relationships between narcissism and some components of transformational leadership, such as individual consideration but not significantly related to charisma.

The literature on the relationship between narcissism and leadership styles has primarily focused on charismatic leadership. Sankowsky (1995) proposed that charismatic, narcissistic leaders promote their own visions, whether justifiable or not, utilizing their charisma to create a following. Sankowsky further stated that charismatic, narcissistic leaders often unknowingly exploit followers for personal gain, while followers remain supportive of the leader and accept the leaders' explanations when things go wrong. Deluga (1997) explained that narcissism and charisma share many of

the same traits, including self-confidence and a positive self-view. In a research study that examined American presidents, Deluga found that narcissistic personality traits were positively related to charismatic leadership style.

Narcissistic personality traits have also been identified to predispose charismatic leadership emergence (Humphreys et al., 2010). Humphreys et al.'s proposed a model linked two identified types of narcissism (reactive and constructive) and two identified types of charismatic leadership (personalized and socialized). Humphreys et al.'s (2010) model linked reactive narcissism with personalized charismatic leadership and linked constructive narcissists with socialized charismatic leadership. Galvin et al. (2010) found that narcissistic individuals are less socialized and that narcissism is positively related to boldness. Galvin et al.'s study also identified a positive relationship between narcissism and charismatic leadership but not contingent reward (transactional).

Methodology

This study utilized a quantitative, non-experimental, correlational, explanatory, cross-sectional research design. Qualtrics gathered responses from 137 participants who were randomly selected from their selected participant groups. All participants were mid- or upper-level managers who worked in organizations in the United States. Hierarchical multiple linear regression was utilized to analyze the data.

Findings

The multiple linear regression assumptions were satisfied. The model fit statistics did not indicate a good fit for each of the two hierarchical multiple linear regression models used to test both research questions 1 and 2. In contrast, model fit statistics for

the two hierarchical multiple linear regression models used to test research question 3 indicated a statistically good fit.

The three research questions were answered. For research questions one and two, the null hypotheses were supported that no statistically significant relationship existed between the *Narcissistic Personality Traits Index* and either the *Transformational Leadership Style Index* or the *Transactional Leadership Style Index*.

For the third research question, the alternative hypothesis was supported for both models. However, the only predictor variable significantly related statistically to the *Laissez-Faire Leadership Style Index* was the *Narcissistic Personality Traits* Index. None of the control variables were statistically significantly related to the *Laissez-Faire Leadership Style Index.*

Discussion of the Results

Findings from Data Preparation

Participant ages were approximately evenly distributed among the age groups 25-34, 35-44, and 45-54, which accounted for 86% of total participants. Only 12% of responses received were from the age group 55-64 and only 2% from participants over 65 years old. The gender of respondents was approximately evenly distributed: 49% of the population was male and 51% were female. Demographic statistics regarding mid- and upper-level managers in the United States were not discovered so a comparison of the sample with population data was not performed. However, the age ranges and gender distributions appear to be comparable to those for the general population in United States organizations. This is predicated on the observation that, as managers reach their mid-

50s, they often become executive level managers and begin to retire by their early-to-mid 60s.

No outliers were found in the data, which was determined because SPSS does not generate a Casewise Diagnostics table when all of the absolute values of the standardized residuals are less than ±3 standard deviations (Laerd, 2016). Three cases were identified that had leverage points higher than the suggested safe value of 0.2 (Laerd, 2016). Laerd suggests that modifications may only be necessary if these cases were identified to lead to high influence as well as contain leverage. Cook's Distance was utilized to determine if any data contained highly influential points. All Cook's Distances were determined to be less than 1. Therefore, no highly-influential points were identified in the data set (Laerd, 2016). Thus, no modifications to the data set were needed. The descriptive statistics indicated a tight grouping of responses for all indices except age. Standard deviations for all other variables were between .085 and 1.849, whereas the standard deviation for age was 10.424 (Field, 2013).

Findings for the RQ_1 Models

RQ_1 Model 1. The first model for RQ_1 included only the predictor variable the *Narcissistic Personality Traits Index* and the dependent variable the *Transformational Leadership Style Index.* The model fit null hypothesis (H_0: $\rho^2 = 0$) was supported because [$p = .284$) > ($\alpha = .05$)], which means that the *Narcissistic Personality Traits Index* in Model 1 is not a statistically significant predictor of the *Transformational Leadership Style Index.* The value of $R^2 = .008$ indicates that when only the predictor *Narcissistic Personality Traits Index* is used, less than one percent of the variability in the outcome

variable *Transformational Leadership Style Index* was explained. The adjusted $R^2 = .001$ illustrates that the predictor variable was such a poor predictor even less of the variability in the outcome variable was explained for the multiple linear regression model.

RQ_1 Model 2. The second model for RQ_1 included the predictor variables *Narcissistic Personality Traits Index*, *Age*, *Gender*, *Race-African American*, *Race-American Indian or Alaskan Native*, *Race-Asian*, *Race-Two or More Races*, and *Education in Years*, and the dependent variable *Transformational Leadership Style Index*. The model fit null hypothesis (H_0: $\rho^2 = 0$) is supported because [($p = .597$) > ($\alpha = .05$)], which means that the predictor variables in Model 2 are not statistically significant predictors of the dependent variable. The value of $R^2 = .048$ indicates that when all of the predictors were included, only 4.8% of the variability in the outcome variable was explained. The adjusted $R^2 = -.011$ illustrates that all of the predictor variables were such poor predictors that even less of the variability in the outcome variable was explained for the multiple linear regression.

Findings for the RQ_2 Model

RQ_2 Model 1. The first model for RQ_2 included the predictor variable *Narcissistic Personality Traits Index* and the dependent variable *Transactional Leadership Style Index*. The model fit null hypothesis (H_0: $\rho^2 = 0$) is supported because [$p = .059$) > ($\alpha = .05$)], which means the predictor variable in Model 1 is not a statistically significant predictor of the dependent variable. The value of $R^2 = .026$ indicates that when only the predictor variable *Narcissistic Personality Traits Index* is included, only 2.6% of the variability in the outcome variable *Transactional Leadership*

Style Index is explained. The adjusted R^2 = .019 illustrates that even less of the variability in the outcome variables was explained by the multiple linear regression model.

RQ_2 Model 2. The second model for RQ_2 included the predictor variables *Narcissistic Personality Traits Index, Age, Gender, Race-African American, Race-American Indian or Alaskan Native, Race-Asian, Race-Two or More Races,* and *Education in Years,* and the dependent variable *Transactional Leadership Style Index*. The model fit null hypothesis H_0: $\rho^2 = 0$ is supported because [(p = .589) > (α = .05)], which means the predictor variables in Model 2 are not statistically significant predictors of the dependent variable. The value of R^2 = .049 indicates that when all of the predictor variables are used, only 4.9% of the variability in the outcome variable *Transactional Leadership Style Index* was explained. The adjusted R^2 = .011 illustrates that all of the predictor variables were poor predictors since they explained even less of the variability in the outcome variable.

Findings from the RQ_3 Model

RQ_3 Model 1. The first model for RQ_3 included the predictor variable *Narcissistic Personality Traits Index* and the dependent variable *Laissez-Faire Leadership Style Index.* The model fit null hypothesis H_0: $\rho^2 = 0$ is not supported because [p = .001) < (α = .05)], which means that the predictor variable in Model 1 is a statistically significant predictor of the dependent variable. The value of R^2 = .075 indicates that only 7.5% of the variability in the outcome variable is explained by the predictor variable. The adjusted R^2 = .068 illustrates that the predictor variable explained

about 75% of the variability in the outcome variable, which indicates that the *Narcissistic Personality Traits Index* is a reasonably good predictor of the *Laissez-Faire Leadership Style Index*. The null hypothesis H_0: $\beta_1 = 0$ was not supported because [($p = .001$) < ($\alpha/2 = .025$)], which means that the regression coefficient for the predictor variable *Narcissistic Personality Traits Index* (NPTI) in Model 1 is a statistically significant predictor of the dependent variable. This result is consistent with the null hypothesis for model fit H_0: $\rho = 0$ and with the fact that the Pearson's linear correlation coefficient for the predictor variable *Narcissistic Personality Traits Index* (NPTI) and the outcome variable *Laissez-Faire Leadership Style Index* ($r = -.274$) was significant (i.e. the null hypothesis $\rho = 0$ was not supported because [($p = .001$) < ($\alpha = .05$)].

RQ_3 Model 2. The second model for RQ_3 included the predictor variables *Narcissistic Personality Traits Index, Age, Gender, Race-African American, Race-American Indian or Alaskan Native, Race-Asian, Race-Two or More Races,* and *Education in Years,* and the dependent variable *Laissez-Faire Leadership Style Index.* The null hypothesis H_0: $\rho^2 = 0$ is not supported because [($p = .004$) < ($\alpha = .05$)], which means that at least one of the predictor variables in Model 2 is a statistically significant predictor of the dependent variable. The value of $R^2 = .160$ indicates that when all of the predictor variables are used 16% of the variance in the outcome variable was explained. The adjust $R^2 = .107$ illustrates that although including all predictors increased the variability in the outcome, the overall predictability of the model decreased to 66.9%, indicating that the control variables were poor predictors. The null hypothesis H_0: $\beta_1 = 0$ was not supported because [($p = .005$) < ($\alpha/2 = .025$)], which means that the regression

coefficient for the predictor variable *Narcissistic Personality Traits Index* and the outcome variable *Laissez-Faire Leadership Style Index* (r = -.274) was significant (i.e., the null hypothesis H_0: $\rho = 0$ was not supported because [(p = .005) < (α = .05)]

Implications of the Study Results

The findings of this study have implications for both theory and practice. The theoretical implications concern narcissistic theories and the full range leadership theory. The statistical significance of the relationship between *Narcissistic Personality Traits Index* and the *Laissez-Faire Leadership Style Index*, and lack of significance with the variables *Transformational Leadership Style Index* and *Transactional Leadership Style Index* was unexpected. These results suggest that managers who adopt a leadership style that has been defined as a total lack of leadership are the most narcissistic.

Implications for Theory

This research study produced results that were very different from those reported in the published literature. For example, Resick et al. (2009) found narcissism to be significantly related to both transactional leadership style and transformational leadership style (when transactional leadership style was not included in the model). Resik et al. also found that narcissism has strong, positive relationships with some components of the transformational leadership subscales and strong, negative relationships with other components transformational leadership subscales. This research study indicates no significant relationships between narcissism and transformational or transactional leadership styles.

One theoretical implication of this research study to the field of leadership is that knowledge regarding the relationship between narcissistic personality traits and leadership styles has been expanded. This research study implies that narcissistic personality traits affect leadership style. As noted in the literature review, narcissism and leadership style both affect decision-making and leadership skills that are central to an organization's performance. Results of this study indicate that narcissism is a significant predictor of laissez-faire leadership style, suggesting that narcissists may adopt various leadership styles.

Another theoretical implication of this study is to expand the knowledge of the validity and application of the personality trait theoretical models. Campbell et al. (2011) stated narcissists initially appear confident, competent, and trustworthy, but often morph into unethical, untrustworthy leaders. This study implies that narcissism significantly predicts laissez-faire leaders who often do not appear confident or competent, which suggests that narcissism is more difficult to identify than had been found in previous research studies. Ames et al. (2006) identified the need to better understand narcissism and the effects this personality trait has on other factors in life. This study implied a narcissistic personality trait affects a leader's actions and leadership style, furthering the current knowledge of the personality traits theoretical models.

Implications for Practice

The practical implications for this study include educating stakeholders to monitor leaders more closely to determine if narcissistic personality traits exist in mid- and upper-

level managers of an organization. Specifically, stakeholders cannot rely on identifying a leadership style to determine if the individual is narcissistic or not

The implications of this research study for the field of management and leadership is a contribution to the management knowledge base by explaining the relationship between narcissistic personality traits and leadership style in the target population of mid- and upper-level managers of organizations in the United States. The impact a narcissistic personality trait in leaders has on decision-making and leadership skills is central to organizational functioning and performance. Due to the dissimilar results found in this study as compared to results in the published literature, stakeholders should be alerted of the emergence of narcissism in all leadership styles and understand the effects narcissistic leaders may have on an organization. Providing a better understanding of the relationship between narcissistic personality traits in leaders and the leadership style they adopt offers potential benefits to both scholars and stakeholders in U.S. organizations.

This research study has several practical implications to multiple organizational stakeholders by (a) providing guidance in human resource administration, (b) informing other leaders and followers of narcissistic-identification methods, and (c) informing other leaders and followers of the influence narcissistic personality traits has on leadership styles. Campbell et al. (2011) identified Human Resources departments need to be more informed about leadership style and narcissism. This study provides practical benefits by identifying relationships between narcissistic personality traits and the full range leadership theory styles, providing identification and mediating methods of narcissism in leaders by various stakeholders.

Limitations

The limitations of this research study involve several components of the research design. The sampling frame, which recruited participants through an online professional survey organization, provided a limitation. In addition, the inclusion criterion provided a limitation on participants. Participants were recruited from a Qualtrics audience comprised of individuals who agree to participate in surveys. As a result, they may have biased attitudes towards the types of questions being asked and may have a specific attitude toward their supervisor (positive or negative). The utilization of a pre-qualified survey audience is a limitation for this study.

The survey used in this research study required participants to rate their immediate supervisors. The questions related to the supervisor's self-view and responses to particular situations. Participants may not have sufficient knowledge to determine how their immediate supervisor views him/herself or how the supervisor may react when faced with the situations presented in the survey questions. The rater instrument of this study is a limitation.

The model fit in the regression models examining all research questions did support the null hypotheses for RQ_1 and RQ_2. This suggests that the predictor variable *Narcissistic Personality Traits Index* and all of the control variables were not statistically significant predictors of the dependent variables examined in RQ_1 and RQ_2. The model fit statistics is a limitation to this study.

The sample size in relation to the population of mid- and upper-level managers in United States organizations is a limitation. The sample size of this study was 137 mid- to

upper-level managers. Although no labor statistics were found regarding the general population of mid- and upper-level managers of US organizations, the sample size is very small when compared to the likely size of the population of mid- and upper-level managers of U. S. organizations. This limitation may compromise this research study's generalizability to the general population.

This research study used only one personality trait to predict leadership style. A multitude of personality traits may influence an individual to choose a leadership style. The use of only one personality trait may bias the results relating to how personality traits relate to the leadership style of an individual. This conclusion is supported by the small proportion of the variability in the outcome variable that was explained even for the regression model for RQ_3, which was determined to be statistically significant.

Last, this research study used only one leadership theory to define leadership styles. Limiting the study leadership styles defined by the Full range leadership theory excludes several other leadership theories/styles discussed in the literature, such as authentic leadership, and charismatic leadership. The use of only one leadership theory is a limitation of this study.

Recommendations for Future Research

This research study examined the relationship between narcissism and leadership style. The findings of this study were different from those presented in the literature. Therefore, further research is warranted to expand the knowledge base of the relationship between narcissism and leadership style.

This research study's survey instrument required participants to rate their immediate supervisors using statements relating to leadership style and narcissism. In addition, inclusion criterion required participants to have worked under their supervisor for a minimum of one year. Repeating this study having participants self-rate would extend these results as participants who rate others may speculate how the leader would answer some questions whereas a manager rating him/herself will provide accurate responses. Using a self-rated method will also eliminate the inclusion criteria limitation thus providing a larger participant pool.

The study was limited to one personality trait to predict leadership style. Examining the relationship between the big five factor structure/five factor model of Personality and leadership style, discussed in the literature review, may contribute to an understanding of how leadership is determined and if narcissism affects or is affected by these traits. Repeating this study utilizing the traits of the big five structure/five factor model as the independent variable might clarify the predictive ability traits have on leadership styles.

This study examined leadership through the lens of the full range leadership theory, which is based on three leadership styles. Two of the styles included in the full range leadership theory are comprised of several components, which may be construed to be separate leadership styles. Repeating the study examining all subscales of the full range leadership theory separately may provide results that focus on specific aspects of leadership rather than general leadership styles. In addition, inclusion of other leadership styles may provide results beyond the full range leadership theory styles.

Conclusion

This study addressed the research problem regarding the relationship between narcissism and leadership styles. Previously published literature has not examined narcissism's ability to predict a leadership style. This study extended results found in the literature that examined narcissistic personality traits with personality traits of various leadership styles, such as charismatic, transformational, and transactional leadership. The use of the narcissism personality trait to predict leadership styles included in the full range leadership theory extends the research in the area of leadership.

Hierarchical multiple linear regression was utilized to answer the three primary research questions of whether there is a significant relationship between narcissism and the three leadership styles included in the full range leadership theory. The null hypotheses were supported for the first two research questions, which examined transformational and transactional leadership styles, because the predictor variables did not have a statistically significant relationship with the dependent variable. The alternative hypothesis was supported for the third research question, which found a statistically significant relationship between narcissism and laissez-faire leadership style.

REFERENCES

Amemic, J. H., & Craig, R. J. (2010). Accounting as a facilitator of extreme narcissism. *Journal of Business Ethics, 96*, 79-93. doi:10.1007/s10551-010-0450-0

Ames, D. R., Rose, P., & Anderson, C. P. (2006). The NPI-16 as a short measure of narcissism. *Journal of Research in Personality, 40*, 440-450. doi:10.1016/j.jrp.2005.03.002

Antonakis, J., Avolio, B. J., & Sivasubramaniam, N. (2003). Context and leadership: an examination of the nine-factor full-range leadership theory using the Multifactor Leadership Questionnaire. *The Leadership Quarterly, 14*, 264-295. doi:10.1016/S1048-9843(03)00030-4

Avolio, B. J., & Bass, B. M. (1991). *The full range leadership development programs: Basic and advanced manuals*. Thousand Oaks, CA: Sage.

Avolio, B. J., & Bass, B. M (2004). *Multifactor Leadership Questionnaire: Manual & review copy*. Menlo Park, CA: Mind Garden.

Avolio, B. J., Bass, B. M., & Jung, D. (1999). Re-examining the components of transformational and transactional leadership using the Multifactor Leadership Questionnaire. *Journal of Occupational and Organizational Psychology, 72*, 441-462. doi:10.1348/096317999166789

Back, M. D., Küfner, A. C., Dufner, M., Gerlach, T. M., & Rauthmann, J. F. (2013). Narcissistic admiration and rivalry: Disentangling the bright and dark sides of narcissism. *Journal of Personality and Social Psychology, 105*, 1013-1037. doi:10.1037/a0034431

Balkundi, P., Kilduff, M., & Harrison, D. A. (2011). Centrality and charisma: Comparing how leader networks and attributions affect team performance. *Journal of Applied Psychology, 96*, 1209-1222. doi:10.1037/a0024890

Bass, B. M. (1997). Does the transactional-transformational leadership paradigm transcend organizational and national boundaries? *American Psychologist, 52*, 130-139. doi:10.1037//0003-066x.52.2.130

Bennett, C. S. (2006). Attachment theory and research applied to the conceptualization and treatment of pathological narcissism. *Clinical Social Work Journal, 34*, 45-60. doi:10.1007/s10615-005-0001-9

Blair, C. A., Hoffman, B. J., & Helland, K. R. (2008). Narcissism in organizations: A multisource appraisal reflects different perspectives. *Human Performance*, *21*, 254-276. doi:10.1080/08959280802137705

Boddy, C. R. (2014). Corporate psychopaths, conflict, employee affective well-being, and counterproductive work behavior. *Journal of Business Ethics*, *121*, 107-121. doi:10.1007/s10551-013-013-1688-0

Brandon, D. M., Long, J. H., Loraas, T. M., Mueller-Phillips, J., & Vansant, B. (2014). Online instrument delivery and participant recruitment services: Emerging opportunities for behavioral accounting research. *Behavioral Research in Accounting*, *26*(1), 1-23. doi:10.2308/bria-50651

Cain, N. M., Pincus, A. L., & Ansell, E. B. (2008). Narcissism at the crossroads: Phenotypic description of pathological narcissism across clinical theory, social/personality psychology, and psychiatric diagnosis. *Clinical Psychology Review*, *28*, 638-656. doi:10.1016/j.cpr.2007.09.006

Campbell, W. K., & Campbell, S. M. (2009). On the self-regulatory dynamics crated by the peculiar benefits and costs of narcissism: A contextual reinforcement model and examination of leadership. *Self and Identity*, *8*, 214-232. doi:10.1080/15298860802505129

Campbell, W. K., Goodies, A. S., & Foster, J. D. (2004). Narcissism, confidence, and risk attitude. *Journal of Behavioral Decision Making*, *17*, 297-311. doi:10.1002/bdm.475

Campbell, W. K., Hoffman, B. J., Campbell, S. M., & Marchisio, G. (2011). Narcissism in organizational contexts. *Human Resource Management Review*, *21*, 268-284. doi:10.1016/j.hrmr.2010.10.007

Chatterjee, A., & Hambrick, D. C. (2007). It's all about me: Narcissistic chief executive officers and their effects on company strategy and performance. *Administrative Science Quarterly*, *52*, 351-386. doi:10.2189/asqu.52.3.351

Chatterjee, A., & Hambrick, D. C. (2011). Executive personality, capability cues, and risk taking: How narcissistic CEOs react to their successes and stumbles. *Administrative Science Quarterly*, *56*(2), 202-237. doi:10.1177/0001839211427534

Conger, J. A. (1990). The dark side of leadership. *Organizational Dynamics*, *19*(2), 44-55. doi:10.1016/0090-2616(90)90070-6

Corry, N., Merritt, R. D., Mrug, S., & Pamp, B. (2008). The factor structure of the Narcissistic Personality Inventory. *Journal of Psychological Assessment*, *90*, 593-600. doi:10.1080/00223890802388590

Crossan, F. (2003). Research philosophy: Towards an understanding. *Nurse Researcher*, *11*(1), 46-55. doi:10.7748/nr2003.10.11.1.46.c5914

Crossan, M. M. (2003). Organizational learning and strategic renewal. *Strategic Management Journal*, *24*, 1087-1105. doi:10.1002/smj.342

del Rosario, P. M. & White, R. M. (2005). The Narcissistic Personality Inventory: Test-retest stability and internal consistency. *Personality and Individual Differences*, *39*, 1075-1081. doi:10.1016/j.paid.2005.08.001

Deluga, R. J. (1997). Relationship among American presidential charismatic leadership, narcissism, and rated performance. *Leadership Quarterly*, *8*(1), 49. doi:10.1016/s1048-9843(97)90030-8

Digman, J. M. (1990). Personality structure: Emergence of the Five-Factor Model. *Annual Reviews Psychology*, *41*, 417-440. doi:10.1146/annurev.ps.41.020190.002221

Eagly, A. H., Johannesen-Schmidt, M. C., & van Engen, M. L. (2003). Transformational, transactional, and laissez-faire leadership styles: A meta-analysis comparing women and men. *Psychological Bulletin*, *129*, 569-591. doi:10.1037/0033-2909.129.4.569

Ehrhart, M. G. (2004). Leadership and procedural justice climate as antecedents of unit level organizational citizenship behavior. *Personnel Psychology*, *57*, 61-94. doi:10.1111/j.1744-6570.2004.tb.02484

Emmons, R. A. (1984). Factor analysis and construct validity of the Narcissistic Personality Inventory. *Journal of Personality Assessment*, *48*, 291-300. doi:10.1207/s15327752jpa4803-11

Emmons, R. A. (1987). Narcissism: Theory and measurement. *Journal of Personality and Social Psychology*, *52*, 11-17. doi:10.1037/0022-3514.52.1.11

Fual, F., Erhelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*, 1149-1160. doi:10.3758/BRM.41.4.1149

Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. London: Sage.

Galvin, B. M., Lange, D., & Ashforth, B. E. (2015). Narcissistic organizational identification: Seeing oneself as central to the organization's identity. *Academy of Management Review*, *40*(2), 161-181. doi:10.5465/amr.2013.0103

Galvin, B. M., Waldman, D. A., & Balthazard, P. (2010). Visionary communication qualities as mediators of the relationship between narcissism and attributions of leader charisma. *Personnel Psychology*, *63*, 509-537. doi:10.1111/j.1744-6570.2010.01179.x

Gardner, W. L., & Avolio, B. J. (1998). The charismatic relationship: A dramaturgical perspective. *Academy of Management Review*, *23*, 32-58. doi:10.5465/amr.1998.192958

Gentile, B., Miller, J. D., Hoffman, B. J., Reidy, D. E., Zeichner, A., & Campbell, W. K. (2013). A test of two brief measures of grandiose narcissism: The Narcissistic Personality Inventory-13 and the Narcissistic Personality Inventory-16. *Psychological Assessment*, *25*, 1120-1136. doi:10.1037/a0033192

Ghasabeh, M. S., Soosay, C., & Reaiche, C. (2015). The emerging role of transformational leadership. *The Journal of Developing Areas*, *49*, 459-467. doi:10.1353/jda.2015.0090

Glover, N., Miller, J. D., Lynam, D. R., Crego, C., & Widiger, T. A. (2012). The Five-Factor Narcissism Inventory: A five-factor measure of narcissistic personality traits. *Journal of Personality Assessment*, *94*, 500-512. doi:10.1080/00223891.2012.670680

Grijalva, E., & Harms, P. D. (2014). Narcissism: An integrative synthesis and dominance complementarity model. *The Academy of Management Perspectives*, *28*, 108-127. doi:10.5465/amp.2012.0048

Grijalva, E., Harms, P. D., Newman, D. A., Gaddis, B. H., & Fraley, C. (2015). Narcissism and leadership: A meta-analytic review of linear and nonlinear relationships. *Personnel Psychology*, *68*(1), 1-47. doi:10.1111/peps.12072

Grijalva, E., & Newman, D. A. (2015). Narcissism and counterproductive work behavior (CWB): Meta-analysis and consideration of collectivist culture, Big Five Pesonality, and narcissism's facet structure. *Applied Psychology*, *64*(1), 93-126. doi:10.1111/apps.12025

Hamstra, M. R., Van Yperen, N. W., Wisse, B., & Sassenberg, K. (2014). Transformational and transactional leadership and followers' achievement goals. *Journal of Business Psychology*, *29*, 413-425. doi:10.1007/s10869-013-9322-9

Hansbrough, T. K., & Jones, G. E. (2014). Inside the minds of narcissists: How narcissistic leaders' cognitive processes contribute to abusive supervision. *Zeitschrift für Psychologie, 222*(4), 214-220. doi:10.1027/2151-2604-a000188

Higgs, M. (2009). The good, the bad, and the ugly: Leadership and narcissism. *Journal of Change Management, 9*, 165-178. doi:10.1080/14697010902879111

Ho, J. S., Fie, D. Y., Ching, P. W., & Ooi, K. B. (2009). Relationship between the Full-Range Leadership and insurance salesperson's job satisfaction. *International Journal of Business and Management Science, 2*, 43-60. Retrieved from http://www.safaworld.org/ijbms/abs/Abstracts%20v2n12009/IJBMSV2N1July09Online%204.pdf

House, R. J. (1977). A 1976 theory of Charismatic Leadership. In JG Hunt and LL Larson (Eds.), *Leadership-the cutting edge*. Carbondale, IL: Southern Illinois University Press, 189-207.

Humphreys, J., Zhao, D., Ingram, K., Gladstone, J., & Basham, L. (2010). Situational narcissism and Charismatic Leadership: A conceptual framework. *Journal of Behavioral and Applied Management, 11*, 118-136. Retrieved from http://www.ibam.com/jbam-toc-vol11-no2.html

Judge, T. A., Bono, J. E., Ilies, R., & Gerhardt, M. W. (2002). Personality and leadership: A qualitative and quantitative review. *Journal of Applied Psychology, 87*, 765-780. doi:10.1037//0021-9010.87.4.765

Judge, T. A., LePine, J. A., & Rich, B. L. (2006). Loving yourself abundantly: Relationship of the narcissistic personality to self and other perceptions of workplace deviance, leadership, and task and contextual performance. *Journal of Applied Psychology, 91*, 762-776. doi:10.1037/0021-9010.91.4.762

Kets de Vries, M. F. (1994). The leadership mystique. *Academy of Management Executive, 8*(3), 73-89. doi:10.5465/ame.1994.9503101181

Kets de Vries, M. F. (2016). The greed syndrome. *Insead: Working Paper Series*. Retrieved from http://sites.insead.edu/facultyresearch/research/doc.cfm?did=58192

Laerd Statistics (2016). Retrieved from Laerd.com

Liu, D., Liao, J., & Loi, R. (2012). The dark side of leadership: A three-level investigation of the cascading effect of abusive supervision on employee creativity. *Academy of Management Journal, 55*, 1187-1212. doi:10.5465/amj.2010.0400

Maxwell, K., Donnellan, M. B., Hopwood, C. J., & Ackerman, R. A. (2011). The two faces of Narcissus? An empirical comparison of the Narcissistic Personality Inventory and the Pathological Narcissism Inventory. *Personality and Individual Differences, 50*, 577-582. doi:10.1016/j.paid.2010.11.031

McCleskey, M. (2013). The dark side of leadership: Measurement, assessment, and intervention. *The Business Renaissance Quarterly, 8*, 35-52. Retrieved from https://www.questia.com/read/1P3-3136310051/the-dark-side-of-leadership-measurement-assessment

McDougall, W. (1932). Of the words character and personality. *Character & Personality, 1*(1), 3-16. doi:10.1111/j.1467-6494.1932.tb02209.x

Meurs, J. A., Fox, S., Kessler, S. R., & Sp0ector, P. E. (2013). It's all about me: The role of narcissism in exacerbating the relationship between stressors and counterproductive work behavior. *Work & Stress, 27*, 368-382. doi:10.1080/02678373.2013.849776

Miller, J. D., & Campbell, W. K. (2008). Comparing clinical and social-personality conceptualizations of narcissism. *Journal of Personality, 76*, 449-476. doi:10.1111/j.1467-6494.2008.00492.x

Miller, J. D., Gentile, B., & Campbell, W. K. (2013). A test of the construct validity of the Five-Factor Narcissism Inventory. *Journal of Personality Assessment, 95*, 377-387. doi:10.1080/00223891.2012.742903

Miner, J. B. (2006). Charismatic Leadership Theory. *Organizational behavior 1: Essential theories of motivation and leadership*, pp. 337-360. Armonk, NY: M.E. Sharp, Inc.

Muenjohn, N., & Armstrong, A. (2008). Evaluating the structural validity of the Multifactor Leadership Quesionnaire (MLQ), capturing the leadership factors of transformational-transactional leadership. *Contemporary Management Research, 4*(1), 3-14. doi:10.7903/cmr.704

Nathans, L. L., Oswals, F. L., & Nimon, K. (2012). Interpreting multiple linear regression: A guidebook of variable importance. *Practical Assessment, Research & Evaluation, 17*(9), 1-19. Retrieved from http://pareonline.net/getvn.asp?v=17&n=9

Petit, V. & Bollaert, H. (2012). Flying too close to the sun? Hubris among CEOs and how to prevent it. *Journal of Business Ethics, 108*, 265-283. doi:10.1007/s10551-011-1097-1

Phillips, A. (2015). OH research, how to conduct surveys. *Occupational Health*, *67*(1), 27-30. Retrieved from Retrieved from http://search.proquest.com.library.capella.edu/docview/1655359410?accountid=27965

Pincus, A. L., & Ansell, E. B. (2003). Interpersonal Theory of Personality. *Handbook of Psychology, Personality and Social Psychology*, *5*(2), 141-159. doi:10.1002/0471264385.wei0509

PsycTESTS (2016). American Psychological Association. doi:10.1037/t00001-000

Raskin, R. N., & Hall, C. S. (1979). A Narcissistic Personality Inventory. *Psychtests*. doi:10.1037/t00001-000

Raskin, R. N., & Hall, C. S. (1988). A principle-components analysis of the Narcissistic Personality Inventory and further evidence of its construct validity. *Journal of Personality and Social Psychology*, *54*, 890-902. doi:10.1037/0022-3514.54.5.890

Raskin, R., & Terry, H. (1988). A principal-components analysis of the Narcissistic Personality Inventory and further evidence of its construct validity. *Journal of Personality and Social Psychology*, *54*, 890-902. doi:10.1037/0022-3514.54.5.890

Resick, C. J., Whitman, D. S., Weingarden, S. M., & Hiller, N. J. (2009). The bright-side and dark-side of CEO personality: Examining core self-evaluations, narcissism, transformational leadership, and strategic influence. *Journal of Applied Psychology, 94*, 1365-1381. doi:10.1037/a0016238

Rijsenbilt, A., & Commanderu (2013). Narcissus enters the courtroom: CEO narcissism and fraud. *Journal of Business Ethics, 117*, 413-429. doi:10.1007/s10551-012-1528-7

Roche, M. J., Pincus, A. L., Conroy, D. E., Hyde, A. L., & Ram, N. (2013). Pathological narcissism and interpersonal behavior in daily life. *Personality Disorders: Theory, Research, and Treatment*, *4*, 315-323. doi:10.1037/a0030798

Roche, M. J., Pincus, A. L., Lukowitsky, M. R., Menard, K. S., & Controy, D. E. (2013). An integrative approach to the assessment of narcissism. *Journal of Personality Assessment, 95*, 237-248. doi:10.1080/00223891.2013.770400

Rosenthal, S. A., & Pittinsky, T. L. (2006). Narcissistic leadership. *The Leadership Quarterly, 17*, 617-633. doi:10.1016/j.leaqua.2006.10.005

Ryan, J. C., & Tipu, S. A. (2013). Leadership effects on innovation propensity: A two-factor leadership model. *Journal of Business Research, 66*, 2116-2129. doi:10.1016/j.jbusres.2013.02.038

Sankowsky, D. (1995). The charismatic leader as narcissist: Understanding the abuse of power. *Organizational Dynamics*, *23*, 57-71. doi:10.1016/0090-2616(95)90017-9

Sedikides, C., Rudich, E. A., Gregg, A. P., Kumashiro, M., & Rusbult, C. (2004). Are normal narcissists psychologically healthy? Self-esteem matters. *Journal of Personality and Social Psychology*, *87*, 400-416. doi:10.1037/0022-3514.87.3.400

Skogstad, A., Hetland, J., Glase, L., & Einsaren, S. (2014). Is avoidant leadership a root cause of subordinate stress? Longitudinal relationships between laissez-faire leadership and role ambiguity. *Work & Stress*, 323-341. doi:10.1080/02678373.2014.957362

Sosik, J. J., Chun, J. U., & Zhu, W. (2014). Hang on to your ego: The moderating role of leader narcissism on relationships between leader charisma and follower psychological empowerment and moral identity. *Journal of Business Ethics*, *120*, 65-80. doi:10.1007/s10551-013-1651-0

Spain, S. M., Harms, P., & Lebreton, J. M. (2014). The dark side of personality at work. *Journal of Organizational Behavior*, *35*, S41-S60. doi:10.1002/job.1894

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Upper Saddle River, NJ: Pearson.

Toor, S., & Ofori, G. (2009). Ethical leadership: Examining the relationships with Full Range Leadership Model, employee outcomes, and organizational culture. *Journal of Business Ethics*, *90*, 533-547. doi:10.1007/s10551-009-0059-3

Wales, W. J., Patel, P. G., & Lumpkin, G. T. (2013). In pursuit of greatness: CEO narcissism, entrepreneurial orientation, and firm performance variance. *Journal of Management Studies*, *50*, 1041-1069. doi:10.1111/joms.12034

Widiger, T. A. (1993). The *DSM-III-R* Categorical Personality Disorder Diagnoses: A critique and an alternative. *Psychological Inquiry*, *4*, 75-90. doi:10.1207/s15327965pli0402_1

APPENDIX A. STATEMENT OF ORIGINAL WORK

Academic Honesty Policy

Capella University's Academic Honesty Policy (3.01.01) holds learners accountable for the integrity of work they submit, which includes but is not limited to discussion postings, assignments, comprehensive exams, and the dissertation or capstone project.

Established in the Policy are the expectations for original work, rationale for the policy, definition of terms that pertain to academic honesty and original work, and disciplinary consequences of academic dishonesty. Also stated in the Policy is the expectation that learners will follow APA rules for citing another person's ideas or works.

The following standards for original work and definition of *plagiarism* are discussed in the Policy:

> Learners are expected to be the sole authors of their work and to acknowledge the authorship of others' work through proper citation and reference. Use of another person's ideas, including another learner's, without proper reference or citation constitutes plagiarism and academic dishonesty and is prohibited conduct. (p. 1)
>
> Plagiarism is one example of academic dishonesty. Plagiarism is presenting someone else's ideas or work as your own. Plagiarism also includes copying

> verbatim or rephrasing ideas without properly acknowledging the source by author, date, and publication medium. (p. 2)

Capella University's Research Misconduct Policy (3.03.06) holds learners accountable for research integrity. What constitutes research misconduct is discussed in the Policy:

> Research misconduct includes but is not limited to falsification, fabrication, plagiarism, misappropriation, or other practices that seriously deviate from those that are commonly accepted within the academic community for proposing, conducting, or reviewing research, or in reporting research results. (p. 1)

Learners failing to abide by these policies are subject to consequences, including but not limited to dismissal or revocation of the degree.

Statement of Original Work and Signature

I have read, understood, and abided by Capella University's Academic Honesty Policy (3.01.01) and Research Misconduct Policy (3.03.06), including the Policy Statements, Rationale, and Definitions.

I attest that this dissertation or capstone project is my own work. Where I have used the ideas or words of others, I have paraphrased, summarized, or used direct quotes following the guidelines set forth in the APA *Publication Manual*.

Learner name and date

Robin Walker, September 8, 2016