

2017

Business-Oriented Leadership Competencies of K-12 Educational Leaders

Kevin Alan Kaufman
Walden University

Follow this and additional works at: <https://scholarworks.waldenu.edu/dissertations>

 Part of the [Business Commons](#), and the [Educational Administration and Supervision Commons](#)

This Dissertation is brought to you for free and open access by the Walden Dissertations and Doctoral Studies Collection at ScholarWorks. It has been accepted for inclusion in Walden Dissertations and Doctoral Studies by an authorized administrator of ScholarWorks. For more information, please contact ScholarWorks@waldenu.edu.

Walden University

College of Management and Technology

This is to certify that the doctoral study by

Kevin Kaufman

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee

Dr. Ronald Black, Committee Chairperson, Doctor of Business Administration Faculty

Dr. Cheryl Lentz, Committee Member, Doctor of Business Administration Faculty

Dr. Neil Mathur, University Reviewer, Doctor of Business Administration Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
2017

Abstract

Business-Oriented Leadership Competencies of K-12 Educational Leaders

by

Kevin Alan Kaufman

MS, Bowie State University, 2003

BA, University of Maryland, 1999

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

February 2017

Abstract

Contemporary K-12 educational leaders must fulfill many roles and responsibilities similar to those fulfilled by traditional business leaders. There is, however, a lack of information about the business-oriented competencies of K12 educational leaders in comparison with business executive norms. This lack of information places K-12 institutions at risk of selecting leaders who are not capable of accomplishing institutional goals and objectives, improving the efficiency and sustainability of business operations, meeting stakeholder expectations, managing social responsibilities, and improving the educational foundation of the next-generation workforce. Grounded in leadership theory, this nonexperimental study included the California Psychological Inventory 260 assessment to capture leadership scale values of 20 K-12 educational leaders in the United States. A 2-tailed, 1-sample t test was used to examine the difference between the leadership scale mean of the sample ($n = 20$) and the leadership scale mean test value of 62 as measured by the Center for Creative Leadership within a group of business executives ($n = 5,610$). Using a 95% confidence level, the calculated leadership scale mean value for the sample was 61.96 ($p = .982$). Although no significant difference existed between the leadership scale means, the identification of gaps in business-oriented leadership competencies indicates that some K-12 leaders may require additional professional development. The findings from this study may influence positive social change by providing human resource and hiring managers with knowledge about using leadership scale measurements to improve the selection and professional development of K-12 educational leaders.

Business-Oriented Leadership Competencies of K-12 Educational Leaders

by

Kevin Alan Kaufman

MS, Bowie State University, 2003

BA, University of Maryland, 1999

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

February 2017

Acknowledgments

I would like to express a special thank you to all my family members and friends who supported me along this most remarkable journey; especially those who may have felt neglected by my limited availability to participate in other activities over the past years. Your understanding of how much this endeavor means to me has not gone unnoticed. I fully comprehend and appreciate the sacrifices you have made in supporting my efforts.

I would also like to express special thanks to my faculty members who guided and assisted me along this journey. Without your support, coaching, and mentoring, the journey would have been much more challenging than it was and even more time consuming. The understanding and support of family, friends, colleagues, mentors, and coaches provided me the strength and determination to achieve this goal.

These acknowledgments simply would not be complete, or just, if I neglected to express special thanks to those K-12 professionals who volunteered to participate in this research. I fully realize that all professionals, in all industries and occupations, find it difficult to balance the time-consuming requirements associated with life and work. I have high respect for those professionals who took the time to participate and have realized the importance of gaining an insight into their professional competencies. Your willingness to examine your competencies demonstrates real leadership. Your participation has contributed to the professional and intellectual development of leadership research and has allowed me to present research findings that contribute to the improvement of both educational and business processes. Thank you!

Table of Contents

List of Tables	iv
List of Figures	v
Section 1: Foundation of the Study.....	1
Background of the Problem	2
Problem Statement	4
Purpose Statement.....	4
Nature of the Study	5
Research Question and Hypotheses	6
Theoretical Framework.....	7
Definition of Terms.....	7
Assumptions, Limitations, and Delimitations.....	8
Assumptions.....	8
Limitations	9
Delimitations.....	10
Significance of the Study	11
Contribution to Business Practice.....	11
Implications for Social Change.....	12
A Review of the Professional and Academic Literature.....	14
Focus of the Literature Review.....	15
Measuring Leadership.....	16
Measuring Leadership Using the California Psychological Inventory	26

School Leadership.....	33
School Leadership and Social Responsibilities	42
School Reform and Leadership.....	50
Transition and Summary.....	58
Section 2: The Project.....	61
Purpose Statement.....	62
Role of the Researcher	63
Participants.....	63
Research Method and Design	64
Research Method	65
Research Design.....	67
Population and Sampling	68
Ethical Research.....	69
Instrumentation	70
Data Collection Technique	74
Data Organization Technique	74
Data Analysis	75
Validity	76
Transition and Summary.....	77
Section 3: Application to Professional Practice and Implications for Change	79
Introduction.....	79
Presentation of the Findings.....	79

Descriptive Statistics.....	79
Inferential Statistics	81
Data Distribution.....	82
Applications to Professional Practice	83
Implications for Social Change.....	84
Recommendations for Action	86
Recommendations for Further Research.....	88
Reflections	89
Conclusion	90
References.....	91
Appendix A: 29 CPI 260 Scales With Descriptions	124
Appendix B: Comparison of Reliabilities and Validities of Scale Coefficients	
Between the CPI 260 and the CPI 434.....	126
Appendix C: CPI 260 Scales Norms for the CCL Executive Norm Sample Group.....	127
Appendix D: CPI 260 Training Certificate	128
Appendix E: Consent Form	129
Appendix F: CPP Support Offer Letter	131

List of Tables

Table 1. Internal Consistency Coefficients for CPI Scales for U.S. Normal Sample..... 72

Table 2. Coefficients of Congruence for CPI 260 Factors in Three Samples..... 73

Table 3. Means, Standard Deviations, Frequencies, and Percentages for Study Variables
(N = 20)..... 80

List of Figures

Figure 1. Histogram depicting leadership scores..... 811

Section 1: Foundation of the Study

A similarity exists between the business-related administrative processes carried out in educational institutions and those in revenue-driven companies (Smith & Addison, 2013). Effective business-related leadership is a major factor that influences the capacity of leaders in any organization to execute and sustain effective and efficient business-related processes (Onorato, 2013). Contemporary U.S. educational leaders must fulfill many roles and responsibilities similar to those fulfilled by business leaders (McFadden, 2013). However, there is considerably less research dedicated to examining the business-related leadership skills of educational leaders compared to the amount of research dedicated to examining the leadership skills of business leaders (Burke, Marx, & Lowerstein, 2012; Purinton, 2013).

Leadership research regularly has a focus on political, military, or corporate utilities or the impact of leadership on diplomacy, battle effectiveness, or financial bottom lines (Steers, Sanchez-Runde, & Nardon, 2012). Numerous leadership theories, as well as various methods of measuring leadership competence, evolved from extensive research on the phenomenon of leadership (Hallinger, 2013; Smith et al., 2016). Many researchers have also compared and contrasted leadership theories and examined how they relate to educational leadership (Onorato, 2013; Van Oord, 2013). However, there is a paucity of research on measuring or analyzing the business-related leadership competence of K-12 educational leaders, or on comparing the leadership potential of K-12 educational leaders against normalized standards (Onorato, 2013).

School review boards and educational leaders consistently proclaim that improving graduation rates and the basic educational competencies of high school graduates requires effective educational reform initiatives. Educational stakeholders (e.g., students, parents, teachers, politicians, business leaders, and other members of society) expect school leaders to sustain appropriate business practices and ensure high school graduates can successfully enter the business world or transition to institutions of higher learning after graduation (Edmunds et al., 2012). For example, school review boards often use high school graduation statistics to evaluate the performance of school leaders (Murane, 2013). However, educational reform initiatives often fail to achieve the desired improvements in U.S. public schools (Donnell & Gettinger, 2015).

Educational reform initiatives rarely address the social and economic responsibilities that the public holds school leaders accountable for (Donnell & Gettinger, 2015). The U.S. public regularly scrutinizes business practices within K-12 institutions for not supporting educational reform initiatives adequately and for the inappropriate use of federal funding (McQuinn, 2012). Educational stakeholders have demanded a reform of school leadership practices that focus on an evaluation of leadership principles similar to those found in corporate entities (Onorato, 2013).

Background of the Problem

Many risks are associated with the process of selecting someone to lead an organization (Desai, Lockett, & Paton, 2015). One associated risk relates to determining whether a candidate possesses the minimum desired leadership competencies commensurate with the position (Kulas, 2013). Failure to evaluate the leadership

competencies of candidates may lead to a risky selection that could be detrimental to the organization. A means of mitigating this risk is to use measurements of leadership competencies as a selection criterion or to use them following a selection to establish individual leadership development programs aimed at sustaining identified strengths and improving potential shortcomings (Casey, Starrett, & Dunlap, 2013).

The process for choosing leaders for positions within an educational institution does not always follow the same guidelines as the process for selecting leaders within a business (Taylor, Pelletier, Trimble, & Ruiz, 2014). The desire to appoint leaders familiar with school management practices commonly leads to selecting existing staff members to fill leadership positions within educational institutions (Zepeda, Bengston, & Parylo, 2012). For example, external candidates may have supervisory experience and might have previously participated in formal business-related leadership education or training programs, but lack experience with business operations in an educational institution. This is problematic because selecting a candidate who does not possess adequate leadership competencies can place an organization in jeopardy of not achieving critical success factors such as meeting established goals, objectives, and stakeholder expectations (Desai et al., 2015).

The need for school leaders to possess business-related leadership competencies parallels educational reform demands for more efficient business-related operations within federal, state, or locally funded schools. For example, a reluctance to compare the business-related operations of nonprofit educational institutions with those of profit-oriented companies directly relates to an unwillingness to examine the business-related

leadership competencies of school leaders (Jacobson & Cypres, 2012). This unwillingness also often leads to a lack of enthusiasm for investigating or developing the business-related leadership competencies of educational leaders (Jacobson & Cypres, 2012). The resulting inability of school leaders to perform business-related operations can create a significant burden on high school students, society, and the global business economy (Van Oord, 2013).

Problem Statement

In a random sample of U.S. elementary, middle, and high school principals, only 68.9% possessed the business-related leadership competencies critical to fulfilling their complex roles and responsibilities (Onorato, 2013). McKibben (2013) found that only 56.7% of K-12 school principals receive exposure to a business-related curriculum as part of an advanced leadership development program. The general problem is that K-12 staff members with many years of classroom experience often lack the formal business-related leadership education, training, and experience necessary to succeed in school leadership positions (Birkeland & Feiman-Nemser, 2012). The specific problem is that it is unknown if K-12 educational leaders across the United States possess leadership competencies comparable to the leadership norm for business executives.

Purpose Statement

The purpose of this quantitative, nonexperimental, comparative study was to examine the difference between the sample mean leadership scale test variable and a normalized leadership scale test value. The test variable was the mean California Psychological Inventory (CPI) 260 Leadership scale value derived from a sample of CPI

260 assessments. The test value was the normalized mean CPI 260 Leadership scale value of 62 derived by the Center for Creative Leadership (CCL) from an executive norm group of excelling business professionals who were considered to be on track for future success. The selected sample included educational leaders within the United States. This population was appropriate for this study to examine the lack of formalized business-related leadership education, training, and experience within K-12 educational leaders across the United States. The implications for social change include the potential to improve the business-related leadership competencies of school leaders. Improving these competencies may improve the efficiency and sustainability of business operations in schools and subsequently improve the educational foundation of the next-generation workforce entering the global business community (Allen, Grigsby, & Peters, 2015; Onorato, 2013).

Nature of the Study

This study utilized a quantitative research methodology. A quantitative methodology is practical when studying social sciences and a behavioral phenomenon such as leadership, as it maximizes objectivity by minimizing the direct involvement of the researcher and reduces the probability of statistical error often seen during the analysis of subjective data (Westerman, 2014). A qualitative methodology is more practical either when the research question is subjective, when conducting a long-term and in-depth study of observed human behavior, or when making generalized inferences concerning a large population (Guercini, 2014), which was not the case for this study. A mixed-methods methodology is more practical when a researcher wishes to combine

objectivity and subjectivity into one research study and to examine a research question from multiple perspectives (Spillman, 2014), which was also not the case. Based on the objective nature of the research question, a quantitative research methodology met the needs of the study.

This study used a nonexperimental comparative design. Researchers use nonexperimental comparative designs to compare and contrast two or more groups to determine if differences in test values exist based on preexisting conditions (Carter et al., 2013). Researchers commonly use experimental and quasi-experimental comparative designs when studying leadership characteristics and leadership development within a defined population group (DeRue, Nahrgang, Hollenbeck, & Workman, 2012). These types of designs usually involve the administration of a survey before and then following a leadership development training to determine if an improvement in leadership abilities occurred (Imai, Tingley, & Yamamoto, 2013). Because the purpose of comparing test variables obtained using a single online assessment tool with an existing test value, the most appropriate design for this study was a nonexperimental comparative design.

Research Question and Hypotheses

The overarching research question investigated in this study was: Is the mean leadership scale value for the sample of K-12 school leaders equal to the CCL executive-norm-group mean leadership scale value of 62, as measured by the CPI 260 assessment?

The hypotheses tested were:

H_0 : The mean leadership scale value for K-12 school leaders is equal to 62.

H_a : The mean leadership scale value for K-12 school leaders is not equal to 62.

Theoretical Framework

The framework for this study extended across multiple leadership theories, with an emphasis on the trait and behavioral theories of strategic leadership. Strategic leadership directly affects organizational performance, and the personality traits of top management professionals directly influence their ability to lead strategically, meet stakeholder expectations, and accomplish organizational goals (Carter & Greer, 2013). Carter and Greer (2013) also emphasized that the combination of sustainability initiatives and the drive to meet social responsibilities requires an integration of multiple leadership theories to meet leadership demands in modern and complex contexts. A trait-and-behavior-theory integrated approach to strategic leadership may add validity to research and may serve as a more accurate prediction of leadership effectiveness (Colbert, Judge, Choi, & Wang, 2012; Gilley, Gilley, Ambort-Clark, & Marion, 2014).

Definition of Terms

Folk concepts: A label for the concepts that arise in everyday life and represent positive, self-actualizing psychological characteristics of behavior (Gough & Bradley, 2005).

Folk scales: A label for the measurements of the folk concepts to predict to what degree people tend to say or do things in predefined situations and to identify individuals whom others would describe as having interpersonal actions that are unique and significant (Gough, 1990).

Leadership index: A label for the numeric value associated with the CPI 260 Leadership scale (Gough & Bradley, 2005).

Scale value: A descriptive representation of the numeric score assigned by the CPI 260 assessment tool to each of the 29 measured scales.

Assumptions, Limitations, and Delimitations

Almost all research projects include assumptions, limitations, and delimitations that can affect the validity of the research and data analysis (Pemberton, 2012).

Researchers should reveal all assumptions, limitations, and delimitations as a means of demonstrating an understanding of the purpose and nature of the research (Pemberton, 2012). This research project had four assumptions, two limitations, and one delimitation.

Assumptions

The primary assumption of this study was that Consulting Psychologists Press (CPP) used proper research techniques to establish the normalized data provided in the CPI 260 assessment. This assumption ensures the normalized scale data reliably represent the measured personality traits and competencies of a group of research participants (McCrae, 2014). Many behavioral-related research tools relate specifically to psychopathological research participants and fall into the category of clinical assessments. These assessments classify behaviors according to established models or theories on personality (Gough & Bradley, 2005). Using the CPI 260 assessment as a research tool is an effective approach toward predicting what people will say or do in situations and identifying meaningful and differential ways that others would describe the characteristics and potential of those people (Gough & Bradley, 2005).

Researchers can compare CPI assessment results against two sets of normalized descriptive statistics. The first set of statistics was based on the assessment results from a

sample group of 6,000 members of the general population, also known as the *standard norm group* (3,000 men and 3,000 women). The second set represents results obtained through a study conducted by analysts at CCL, which included a sample of 5,610 business managers and executives (4,070 men and 1,540 women), also known as the *executive norm group* (Gough & Bradley, 2005).

The second assumption associated with this study was that the personality profiles of business leaders always differ from members of the general population. It was necessary to conceptualize this assumption before performing a reliable and meaningful comparison between the sample population data and normalized data. Gough and Bradley (2005) supported these first two assumptions and uniformly related to the theoretical framework of this research study.

A third assumption was the participants in this study would respond in an accurate and meaningful manner corresponding to how they comprehend their behaviors and the behaviors of others. A final assumption was that a significant difference in the demographics of the employees within the nationwide school system to which the sample belongs would not exist. This assumption supported the belief that the correlational analyses of variables identified in this study were accurate and reliable as they applied to a normalized sample.

Limitations

This study had two significant limitations. The first limitation concerned the influence that variances in hierarchical-based factors in an educational setting can have on collected data elements. Shared variances in hierarchical-based factors at school,

district, or regional levels can violate independence of error, independence of observation, and Type I error avoidance principles if they influence the overarching research question or collected data elements (Woltman, Feldstain, MacKay, & Rocchi, 2012). This study did not involve testing for confounding variables among collected data under the Yule-Simpson Paradox and did consider the sample population to be a homogenous entity examined under common and similar conditions (Smith & Goltz, 2012). The assumption that significant shared variances amongst hierarchical-based groups within the sample population do not exist and the belief that any existing variance has no impact on the research question supported this approach.

The second limitation concerned the use of a single quantitative tool for collecting data. This study included only the CPI 260 assessment. This limitation supported a distinct focus on a specific scale associated with leadership behavior and a comparative analysis with previous research results.

Delimitations

Although the CPI 260 assessment provides values for 20 folk scales, three vector scales, and six work-oriented scales, the statistical analysis conducted in this study included leadership scale values only. The six potential responses for the Current Level of Work demographic item on the CPI 260 assessment were 1 = *entry level*, 2 = *nonsupervisory*, 3 = *supervisor*, 4 = *management*, 5 = *executive*, and 6 = *top executive*. Only school staff members in Categories 3, 4, 5, and 6 were necessary to calculate the statistical mean value for the sample to ensure the mean value represented a sample of current and potential leaders within the educational organizations based on their current

position in their career paths. Using both current and potential leaders led to a more normalized distribution of leadership scale values.

Significance of the Study

This study was designed to generate results that are significant to researchers, practitioners, scholars, corporate business leaders, educational leaders, and other educational stakeholders directly or indirectly affected by the business-related leadership competencies of educational leaders. The absence or existence of these competencies can have a profound impact on an educational leader's capacity to sustain efficient business practices within an educational institution (Onorato, 2013). Many K-12 educational leaders lack critically needed exposure to formalized business-related leadership education and training (Karakose, Yirci, & Kocabas, 2014). Failure to sustain effective and efficient business practices may burden society with fruitless consumption of taxpayer funding and an inability to educate the next generation of business professionals (Van Oord, 2013).

Contribution to Business Practice

The information presented in this study shows the importance of measuring and evaluating the business-related leadership competencies of educational leaders. This information might motivate those involved in the process of selecting and developing educational leaders to take a closer look at the execution of these practices to ensure they support organizational goals and objectives (Sliter, 2015). This study included a method for measuring and evaluating the business-related leadership competencies of educational

leaders to determine how well the leaders meet the demanding rigors of the awarded position.

Stakeholders expect contemporary school leaders and profit-oriented business leaders to establish, execute, and sustain effective and efficient business practices (Onorato, 2013). School leaders must develop an appropriate strategy in the form of the established mission, vision, goals, and objectives. School leaders must also follow proper budgetary practices and ensure the staff members use government funding properly. In addition to these tasks, school leaders must also coach, mentor, and develop staff members to ensure continuity of sustainable business practices. School leaders must also make sure educational programs build a best-qualified next-generation workforce to sustain support to global business operations (Onorato, 2013). Many school leaders lack the necessary business-related leadership competencies needed to recognize and fulfill these responsibilities. This study was designed in part to generate information for use in fulfilling these responsibilities and possibly lead to improved practices of further developing the business-related leadership competencies of educational leaders.

Implications for Social Change

The results of this study indicate minor gaps in business-related leadership education, development, or experience within K-12 institutions, and provide insights for institutional leaders to use in improving leadership selection and development. The business-related roles and responsibilities fulfilled by educational leaders have a significant effect on students, families, the economy, and the success of a graduating high school body to integrate into society as young adults (McFadden, 2013). The

development of business-related leadership competencies may close this gap and improve an education institution's fulfillment of social responsibilities, as well as help increase the core educational skills of high school graduates. Fulfilling responsibilities to society and increasing the educational capacity of high school graduates can have a positive effect on the financial well-being of individuals and their families, as well as a positive effect on the productivity of profit-oriented business operations based on a better educated workforce (McFadden, 2013).

The results of this study are also intended to motivate educational stakeholders to increase their involvement in educational reform initiatives and to ensure educational leaders possess the business-related competencies needed to fulfill their roles and responsibilities (Padro, 2012). Because the business-related competencies of K-12 school leaders have such an influence on the efficient and effective implementation of educational programs, educational stakeholders should be concerned about the methods used to select and develop school leaders. Business leaders specifically should help in the development of business-related school leadership competencies through mentoring programs and direct involvement with school staff. The participation of stakeholders in reform efforts and the improvement of business-related leadership competencies of school leaders can increase the probability of improving the quality of education, which in turn increases graduation rates and prepares graduates to meet the challenges they face after high school (Peck & Reitzug, 2012).

A Review of the Professional and Academic Literature

Educational stakeholders expect contemporary school leaders to fulfill many roles and responsibilities that are equivalent to those required of modern business leaders (Onorato, 2013; Peck & Reitzug, 2012; Smith & Addison, 2013; Van Oord, 2013). The purpose of this study was to conduct a quantitative comparative analysis between the leadership scale values of current leaders within various K-12 schools throughout the United States and those of business leaders believed to be on a path to continued success. The hypothesis is whether the mean leadership scale value of a sample of school leaders is equal to 62, which is the mean leadership scale value of executive norm group defined by the CCL (Gough & Bradley, 2005). A significant difference between the leadership scale mean values might indicate that educational institutions are at risk of failing to meet stakeholder expectations, failing to sustain effective and efficient business operations, and failing to provide the global business community with the best educated next-generation workforce.

Researchers should ground the comparison of leadership competencies in thorough research on the topics of defining leadership, measuring leadership, and examining how various scholars and practitioners interpret leadership. Research of this nature requires an extensive analysis of the literature found in periodicals, books, reports, and other scholarly sources (Leithwood & Sun, 2012). The literature review for this study includes a comprehensive examination of 204 peer-reviewed articles from 148 professional journals on the topics of educational and business leadership, seven books,

and three research papers that augment and reinforce work performed by professional scholars.

Both scholars and practitioners consider leadership to be one of the most complex phenomena related to human nature, as leadership bridges multiple disciplines and blurs the lines that separate the different schools of thought (Smith et al., 2016). An abundance of professional and academic literature on the subject represents various theories, models, viewpoints, and attitudes (Yammarino, 2013). The reluctance of early researchers to explore the impact of leadership across numerous disciplines has increased the complexity of the topic and contributed to the development of multiple research studies on leadership traits, characteristics, styles, behaviors, competencies, and historical examples (Koya, Anderson, Sice, & Kotter, 2015). Many scholarly sources have addressed trends and developments in instructional and transformative leadership as they apply to educational leaders (Lee, Walker, & Chui, 2012). Few sources, however, addressed the existence of, or the need for, business-related leadership competencies in educational leaders, and even fewer attempted to compare these to the leadership competencies expected of business leaders (Purinton, 2013).

Focus of the Literature Review

This literature review contains a foundation for comparing the business-related leadership competencies of leaders in K-12 institutions throughout the United States with those of a normalized group of business executives. The review includes an overview of multiple theories and practices related to measuring leadership attributes, with particular attention to the value of business-related competencies in educational leadership. The

extensive review of literature also includes the topics of social responsibilities and school reform and the ways they relate to educational leadership. The intent of this comprehensive approach was to provide a perspective on the importance of studying and researching school leadership and the critical role of school leadership in society.

Measuring Leadership

An interdependent association exists between the concepts of measuring leadership and examining organizational culture and the context in which leadership theories apply (Metcalf & Benn, 2013). Workplace globalization in the 21st century further complicates the context in which researchers examine, define, and measure leadership (Cumberland, Herd, Alagaraja, & Kerrick, 2016). The complex nature of the phenomenon of leadership generated numerous discussions on how to measure leadership and leadership effectiveness that resulted in the development of multiple models for measuring leadership (Dinh et al., 2014).

When measuring leadership with a quantitative method, researchers can use a dominant general factors approach that spans the context of leadership and provides a universal means of measuring leadership (Braddy, Gooty, Fleenor, & Yammarino, 2014). A universal approach to measuring leadership removes any focus on a specific leadership style and enables a comparison of leaders from various industries and occupations (Latham, 2014). To understand fully how to measure leadership, it is necessary to examine the context in which researchers developed models and scales for measuring leadership. It is also necessary to examine the basic principles of defining leadership,

define effective leadership, and recognize proper leadership to achieve a well-balanced understanding of this complex phenomenon.

The context of leadership. Scholars and practitioners across multiple disciplines, industries, and cultures have universally accepted published leadership theories, regardless of context (Steers et al., 2012). Scholars and practitioners have used these theories to identify various leadership competencies considered essential for successful leadership, irrespective of the industry or culture in which a leader works (Burke et al., 2012). As a result, researchers can describe leaders by indicating the presence or absence of each competency; it is rare for any leader to possess all of them concurrently (Takahashi, Ishikawa, & Kanai, 2012).

Successful leadership performance in one context does not guarantee successful performance in another because different situations demand leaders who possess different sets of competencies (Geier, 2016; Smith et al., 2016). The successful implementation of existing leadership competencies remains dependent on using the appropriate leadership style (Steers et al., 2012). The success or failure of an organizational leader depends on the ability to identify contextually essential leadership competencies and on identifying an appropriate method for measuring those competencies (Desai et al., 2015).

Defining and measuring leadership. The absence of a universally accepted definition of leadership adds to the difficulties associated with establishing a universally accepted method for measuring leadership. Just as society evolved, so have multiple definitions of leadership; all of these definitions, however, include a focus on the understanding that leadership is a process that occurs within a group context and involves

influencing others toward the attainment of goals (Hamstra, Van Yperen, Wisse, & Sassemberg, 2014). Continuous research leads to the development of numerous models for measuring leadership, each based on a variation of the definition of leadership and on the varying approaches used in studying the phenomenon (Dionne et al., 2014).

The concept of leadership dwells deep in the realm of human behavior and has an association with the science of human psychology (Diddams & Chang, 2012). Many scholars considered leadership to be one of the few psychological phenomena that bridge the science and the art of human behavior (Markham, 2012). This phenomenon makes leadership one of the most challenging facets of human behavior to study, understand, define, and measure (Dionne et al., 2014).

Scholars use multiple methods of psychological measurement in an attempt to understand the nature of leadership and to define leadership behavior (Sendjaya, Pekerti, Härtel, Hirst, & Butarbutar, 2016). In a business environment, practitioners measure leadership as a reflection of effectiveness and productivity at various performance levels (e.g., team, department, business unit, division, corporate; Lorinkova¹, Pearsall, & Sims, 2013). When performance and profitability are high, stakeholders interpret existing leadership styles, practices, and behaviors as appropriate and successful (Teti, Perrini, & Tirapelle, 2014). Organizations with less capable leaders can still be profitable, especially if stakeholders share leadership roles and responsibilities as a means of preventing total failure (Bergman, Rentsch, Small, Davenport, & Bergman, 2012). A shared approach to leadership may compensate for insufficient leadership attributes within those who hold leadership positions, but this leads to a situation where the bottom line cannot always

serve as a reflection of individual leadership performance (Hocine & Zhang, 2014). As a result, alternative means of measuring the leadership effectiveness of individuals must receive consideration (Hocine & Zhang, 2014).

In a K-12 educational environment, school review boards often consider student performance to be a direct reflection of the success or failure of school leadership (Brown, 2012). Review boards often use graduation rates as a representation of how effectively the school leadership implemented educational programs and how adequately the school has prepared students either to enter the business world or to continue to institutions of higher learning after graduation (Smith & Riley, 2012). An examination of research data collected at the Alabama State Department of Education from 1990-2007 revealed that successful school leadership was the most determinant factor affecting high school drop-out and graduation rates (Brown, 2012). The underlying principle of the Alabama State Department of Education theory did not include regional differences in the formulas used to calculate drop-out and graduation rates and ignored a multitude of other social and economic factors that influence these rates (Smith & Riley, 2012). Scholars have also debated the accuracy of models used to measure graduation rates, just as they debated the accuracy and reliability of models used to measure school leadership (Brown, 2012; Ten Bruggencate, Luyten, Scheerens, & Slegers, 2012).

Further debates have taken place among scholars and researchers regarding the differences between task-oriented and relationship-oriented leader behaviors and in which leadership context each best applies (Braddy et al., 2014). The focus of a portion of the debate was on how to measure and assess one behavior or the other properly,

whether the assessments are comparable or interchangeable, and whether the assessments are valid (Braddy et al., 2014). The debate about behaviors is similar to another debate about the differences between instructional leadership and transformational leadership and whether it is possible to make a comparison between the leadership approaches of educational and business leaders (Bush, 2014; Goddard, Goddard, Kim, & Robert, 2015).

Models for measuring leadership. Judge, Bono, Ilies, and Gerhardt (2002) used a five-factor quantitative model to measure correlations of leadership traits in an organizational framework based on generalized survey responses. This research was designed to determine if a significant difference existed between the leadership traits in identified leaders and those of followers. Judge et al. identified a strong correlation between neuroticism, extraversion, openness to experience, and conscientiousness indicated that these traits tend to be universal indicators of effective leadership and predictors of leader emergence. A weak correlation between agreeableness and leadership demonstrated that this trait is not an adequate indicator of effective or emergent leadership. Judge et al. compared these results against 10 other qualitative research studies, revealing that these studies had few leadership characteristics in common and further indicating the difficulty of applying leadership attributes across various broad contexts.

A quantitative study on employee perceptions of what they considered reputable leaders revealed 149 distinct leadership behaviors and the associated psychometric effects on business culture and success (Quaquebeke & Eckloff, 2010). Quaquebeke and Eckloff also compared the concept of followership to perceptions of successful and respectable

leadership, but not regarding the leaders' perception of their followers (Quaquebeke & Eckloff, 2010), concluding that a relationship existed between respectable leaders and respected followers, which promoted a productive business culture. Quaquebeke and Eckloff emphasized the importance of employee perception is toward defining a successful leader. The study also revealed a direct correlation between follower qualities and leadership competencies but failed to address how the leaders perceived themselves (Quaquebeke & Eckloff, 2010).

Numerous quantitative researchers have focused on the leadership characteristics of existing educational leaders and how researchers studied the effects of faculty and staff leadership on student accomplishments (Brown, 2012; Hairon & Goh, 2015; Hitt & Tucker, 2016). Surveys and questionnaires are a means of measuring leadership expertise in school principals, but these instruments are often based on Likert-type or semantic differential scales and do not always satisfy assumptions of normality (Hairon & Goh, 2015). Many self-reporting-based leadership measurement instruments are more prone to biased responses and are not always reliable and accurate (Mittal & Dhar, 2015). The missing link between leadership mechanisms and school improvement may be an understanding of who needs to be involved, which and what type of instruments to use based on environmental context, and an increase of research focused on the linkage (Whitworth & Chiu, 2015).

As an alternative to using self-reporting methods focusing on how leaders view their leadership characteristics and traits, a more accurate method for measuring leadership involves using tools that measure leadership attributes observed and reported

by others (Gough & Bradley, 2005). Scholars have often described effective leadership as the ability to motivate and influence others toward functioning more efficiently. In an educational environment, effective leadership can include the ability to satisfy the demands of multiple internal and external stakeholders (Pavlakis & Kelley, 2016). Within the context of increased educational reforms and the ever-changing demands on educational leaders, critics often described effective school leadership as the ability to improve continually and adapt one's leadership skills while sustaining student performance in a volatile environment (Burke et al., 2012). The challenge of defining how to measure effective leadership in any context still exists.

Leadership recognition. Even though the successful application of leadership principles is highly dependent on context, the ability to apply those principles remains highly reliant on an individual's personality (Loehlin, 2012; Yukl, 2012). Being a good leader involves more than being at the right place at the right time; it involves the application of personality traits in a manner that convinces others that one's behavior warrants leadership recognition (Germain, 2012). History books portray many popular historical figures as great leaders and credit them with possession of great leadership qualities, sometimes based strictly on what others know about them. In the absence of firsthand knowledge or personal experiences, historical figures emerge based solely on the perceptions that their behavior was what members of society had reasonably expected of a great leader, as opposed to having direct exposure to such behavior (Aktas, Gelfand, & Hanges, 2016).

Recognition as a leader depends on possessing the personality traits expected of a leader. A person's character, however, is a composition of cognitive experiences that also influences how a person will behave. The perception of the expectations of what defines a leader depends on cognitive experiences and exposure to alternative definitions of leadership (Grant, 2012). This irony provides one explanation of why some, but not all, may recognize someone as a leader. This irony also adds to the challenge of defining leadership, explaining what an innocent bystander would expect of a leader, and properly measuring leadership attributes and potential (Germain, 2012).

Each instance of human experience becomes an ingrained factor of personality. The aggregate of all cognitive experiences defines personality and can serve to predict how to behave in a situation. Documenting this aggregate can provide insight into how someone thinks or feels and can aid in predicting how a person might react in situations requiring leadership skills (Brewster et al., 2014). Documenting a personality aggregate can involve identifying the presence of individual personality traits and measuring the intensity of each presence. An issue of constant discontent among researchers is agreeing which traits are critical to the accurate documentation of one's aggregate personality (Gaddis & Foster, 2015).

Scholars commonly dispute which personality traits they should observe and measure to determine whether someone should receive recognition as being a leader (Humphreys, Haden, & Davis, 2015). This dispute led to the development of multiple leadership theories, each promoting different personality traits that constitute recognition of a real leader. Most scholars agree that leadership is a complicated phenomenon of

human behavior, comprises multiple personality attributes, and remains a difficult topic to define and study (Block, 2014). This agreement also led to the development of multiple models of leadership and multiple models for measuring leadership (Antonakis & House, 2015; Brown, 2012; Ten Bruggencate et al., 2012).

The use of leadership scales. Measuring individual personality traits and examining existing correlations between multiple traits can determine an individual's potential for displaying leadership behavior. Researchers conduct extensive research in the area of defining and measuring personality traits and use this research to develop various scales to represent the personality traits expected of good leaders (Peterson, Arregle, & Martin, 2012). The goal of such extensive research is to move beyond subjective opinions and to present objective measurements of behaviors using scientific formulas (Volmer, Koch, & Göritz, 2016).

Measuring the personality traits of multiple individuals across multiple industries and nations allows researchers to establish normalized scales for identifying individuals recognized as, or possessing the potential of being recognized as, good leaders, irrelevant of context (Gough & Bradley, 2005). Researchers who follow this approach tend to view and measure the potential for leadership as an aggregate of multiple personality traits (Antonakis & House, 2015). This approach assists in closing the gap between the science and the art of psychological and behavioral research, attracting the interests of a broader research group, and promoting further research on the topic of leadership (Braddy et al., 2014).

Researchers establish leadership profiles through the measurement and correlation of expected leadership behavior in multiple individuals (Gough & Bradley, 2002, 2005). These profiles help researchers to categorize individuals according to measured leadership behavior and potential and to compare leaders with one another (Vidyarathi, Erdogan, Anand, Liden, & Chaudry, 2014). Comparing leadership profiles to work as performance-related standards serves as a means of determining occupational qualifications. Common examples of occupation-related profiles are managerial (non-leadership-related) occupations, positions requiring extensive creativity, and law-enforcement-oriented positions (Gough & Bradley, 2002). Profiles can also help to determine the suitability of an individual's leadership potential as it applies to organizational hierarchy. The expected leadership behaviors of line managers and senior executives present unique profiles against which to compare individuals.

An empirical scale established by Voegtlin (2011) serves to measure responsible discursive leadership as a means to examine how ethical and transformational leadership extends beyond traditional dyadic leader–follower interactions. Conducting five distinct studies aimed at establishing item generation, content validity, exploratory factor analysis, confirmatory factor analysis, dimensionality, and reliability validated the scale (Voegtlin, 2011). Using a 5-point Likert-type scale, participants identified how often their supervisor interacted with and understood the needs of customers, employees, partners, unions, and the local community (Voegtlin, 2011). The research, with empirical scales, led to a definition of supervisor leadership behavior as explained by the subjective observations of subordinates. Measuring the leadership abilities of a sample group of

professionals believed to be successful executive-level leaders provides a benchmark from which to compare the measured leadership abilities of other sample groups and allows researchers to determine if a significant difference exists (Kulas, 2013).

Measuring Leadership Using the California Psychological Inventory

Extensive research on the phenomenon of leadership resulted in the development of multiple instruments that measure leadership attributes (Goldring, Huff, Spilane, & Barnes, 2009; Yammarino, 2013). Many of the instruments remain in infancy, as full testing and validation are not yet complete (Day, Fleenor, Atwater, Sturm, & McKee, 2014). Researchers have used the CPI as an instrument to interpret leadership behavior since 1951, and scholars view the instrument as one of the most accurate, most reliable, and simplest for measuring leadership attributes (Gough & Bradley, 2005).

Origins of the CPI instrument. Researchers first used the CPI as a research tool in 1951 to measure 15 folk scales by examining responses to 548 true–false survey questions (Boer, Starkey, & Hodgetts, 2010). Through repeated validation and analysis of the scales and questions, researchers discovered redundancies among some of the questions and noted that several scales did not clearly fit the definition of folk concepts, which made them difficult to reconcile (Gough & Bradley, 2005). In 1956, CPP published a new 480-item version of the CPI assessment that omitted the controversial questions and scales and added three new scales related to self-oriented personality traits (Gough & Bradley, 2005). In 1958, researchers began using the new 480-item version for the indirect evaluation of leadership abilities, marking the first time the CPI had been used as a leadership development tool.

In 1986, CPP published a 462-item version of the CPI. This version was missing many items based on the possibility of interpreting them as being gender discriminatory and added two additional scales to measure empathy and independence (Gough & Bradley, 2005). The new 462-item version of the assessment measured 20 folk scales and three vector scales (Gough & Bradley, 2005). To assist researchers in categorizing personality traits based on a more modern understanding of human behavior, CPP added three vector scales to the new version. CPP derived the vector scales included in the CPI assessment from international research conducted in the 1970s and 1980s (Gough & Bradley, 2005). Although researchers used the modernized 462-item version to assess leadership abilities, this version still did not contain any scales to measure leadership characteristics directly.

After the 1991 Americans With Disabilities Act passed into law, CPP dropped 28 items on the CPI because they appeared to violate articles of the new law (Gough & Bradley, 2002). During the process of designing the new version, researchers at CPP recognized an opportunity to include new special-purpose scales that were more work-oriented than the scales included in the 462-item version. The new version included scales to measure leadership, amicability, and law enforcement potential, which made the CPI instrument more compatible for measuring occupation-related personality traits and desired work performance behavior (Gough & Bradley, 2005). The CPP researchers finalized the new CPI 434 instrument in 1996, which quickly became a popular tool to use during external employment recruiting and selection practices. Although the instrument did evaluate leadership potential, researchers claimed that the tool was too

complicated and time-consuming to administer and that the instrument did not meet organizational needs for selecting and developing managers, leaders, and executives (Gough, 2000).

Development of the CPI 260 assessment. In 2002, CPP researchers developed the CPI 260 instrument to avoid gender disparities contained in the full-length CPI 434 instrument (Gough & Bradley, 2005). The items in the shorter CPI 260 version correlate in the same manner as the longer CPI 434 version. The new shorter version improved the administration of the CPI instrument within an occupational and organizational context (Gough & Bradley, 2005). The focus of the specialized CPI 260 instrument is more on measuring advanced personality and behavioral characteristics, which makes the instrument more oriented toward leadership development as opposed to employment selection (Megargee, 2009).

In general, the CPI 260 instrument measures 20 folk scales, three vector scales, and six work-oriented scales (Gough & Bradley, 2005). Appendix A includes a list of all 29 scales along with a brief description of each. One of the work-related scales included in the CPI 260 instrument, which was the focus of this research project, is the leadership scale. The CPI 260 Leadership scale (*Lp*) is a composite measurement of seven of the 20 folk scales and measures the capacity or tendency for an assessed individual to perform well when placed in leadership positions (Gough, 1990). The seven folk scales used to derive the CPI 260 Leadership scale are Dominance, Capacity for Status, Sociability, Social Presence, Self-acceptance, Independence, and Empathy (Gough & Bradley, 2005). Researchers at CPP selected these scales based on their high quantitative correlations,

both positive and negative, with qualitative descriptions of leader expectations based on 47 of 300 items on an adjective checklist and based on placement on a 50-item, five-step, Q-sort scale used for measuring leadership potential (Gough, 1990).

High interscale correlations also exist between the scales in the CPI 434 and the CPI 260 instruments, ranging from $r = .97$ for four scales to $r = .81$ for one scale (Megargee, 2009). The correlation of all 29 scales between the CPI 260 and the CPI 434 resulted in a median of $r = .95$ for men, women, and the combined total normalized sample group of 6,000 participants (3,000 men and 3,000 women). Appendix B contains the reliability coefficients for the CPI 260 and the correlation coefficients between the CPI 260 and CPI 434 instruments, both measured using the norm sample group ($N = 6000$). These data indicated that the shorter version of the CPI assessment can serve as a relatively accurate proxy for the longer 434 version.

The CPI 260, as well as the CPI 434, the CPI 480, or the CPI 462, can all serve to measure all 20 folk scales, which further validates the effectiveness of the CPI 260 version (Gough & Bradley, 2005). Researchers observed the same correlation ($r = .95$) when comparing scale measurements obtained using the CPI 260 and the CPI 434 in a sample of 2,001 participants in the United Kingdom that included 836 men, 1,149 women, and 16 unknown. This correlation further demonstrates the universal application of the CPI, even in an international context.

Advanced leadership studies using the CPI 260 instrument. Researchers further tested and validated the CPI 260 assessment using a group of 5,610 on-track managers and executives enrolled in a leadership development program at the CCL

(Manoogian, 2006). Researchers at both CPP and the CCL consider this executive norm group as representing business leaders who possess the personality traits and behavioral characteristics expected of successful business leaders (Gough & Bradley, 2005).

Researchers now often use the results of the executive norm group testing as a benchmark for comparing the test result of other groups (Schaubhut, Thompson, & Morris, 2007).

To assess the executive norm group, CCL researchers used only 17 of the 20 folk scales and four of the six work-oriented scales (Gough & Bradley, 2005). Appendix C includes a list of these 21 scales, along with their standard mean scale values and midrange values. The highest mean scale value is 65 for the Managerial Potential scale, and the lowest is 43 for Sensitivity. The standardized mean scale value on all 20 folk scales for the general population is 50. The mean scale values measured in the executive norm group for 20 of the 21 scales are higher than 50, which indicated a significant difference in the scale measurements between the executive norm group and the general population. This difference further reinforced the expectation that leaders and managers will display personality traits and behavioral characteristics that are significantly different from those of the general population (Gough & Bradley, 2005). Comparing the CPI 260 scale measurements from a nonexecutive sample to those of the executive norm group afforded a reliable method for studying leadership (Manoogian, 2006). The comparison also provided an acceptable indication of whether the members of the sample were on track to take on the critical roles and responsibilities associated with being a leader (Manoogian, 2006).

One study included the CPI 260 assessment with three samples of 918 managers and executives dispersed across the United States, Canada, and Australia between 2002 and 2006 (Schaubhut, Thompson, & Morris, 2007). The conclusion indicated that the mean scale values and standard deviations were similar to the results published by CPP for the executive norm group (Schaubhut et al., 2007). The average correlational coefficients for the four factors of the study were .99, .98, .93, and .81. Some researchers accept correlational coefficients of at least .90 as representing congruency between factors, whereas other researchers contended that coefficients between .70 and .90 also represent congruence in psychological research and group leadership studies (Biemann, Cole, & Voelpel, 2012). Schaubhut et al. (2007) concluded that the factorial structure of the CPI 260 is similar across three international samples and provides organizations with confidence that researchers can use the tool to support leadership selection and professional development. This conclusion strengthened the validity and reliability of using the CPI 260 for generalized leadership research.

Grahek, Thompson, and Toliver (2010) assessed the validity of character trait measurements contained in the Worthy Leadership Model by conducting an empirical test of character constructs relating to leadership behavior known as the Worthy Leadership Profile for Executives (WLPe). Participants in the empirical test completed both the WLPe and the CPI 260 to provide data for validity comparison. The WLPe model tested nine character trait dimensions (personal integrity, ethics, openness, organizational integrity, courage, power, humility, gratitude, and forgiveness). These nine dimensions were then benchmarked against 14 of the 20 CPI 260 folk scales and four of

the six CPI 260 composite work-oriented scales (Grahek et al., 2010). The expected observation of divergent validity compared to the composite work-oriented scales validated that the WLPe measures individual, as opposed to composite, character traits. Six of the nine WLPe trait dimensions showed convergent validity with five of the six folk scales used in the composite CPI 260 Leadership scale. This convergent validity confirmed that the WLPe trait dimensions and CPI 260 folk scales were both empirical and confirmed that both were created to measure similar character traits and behaviors. Observations included high levels of convergent validity with individual character trait scales used in the CPI 260 in comparison to seven other personality trait inventories (Hopwood & Donnellan, 2010).

Many organizational leaders use the CPI 260 for conducting nonexperimental before-and-after research studies to measure the associated degree of success for leadership development interventions (Gough & Bradley, 2005). A study involving 64 business leaders and 431 subordinate employees revealed a positive correlation between the leadership-oriented personality traits of leaders and measured levels of job satisfaction in employees, especially in the CPI scales of Leadership, Sociability, and Dominance (Mihalcea, 2013). Select leaders participated in an 11-month transformational leadership and coaching program, after which the researchers measured the job satisfaction levels of all subordinates again. The job satisfaction levels of subordinates whose leaders participated in the coaching program increased, whereas the job satisfaction levels of subordinates whose leaders did not participate in the coaching sessions decreased.

A study with CPI scales to measure personality traits and political skills associated with the leadership competencies of 225 managers in U.S. companies revealed that perceptiveness can be measured using the CPI Good Impression scale. The results indicated a statistical significance with the personality trait of decisiveness ($\beta = .142, p < .05$) and the political skill of social astuteness ($\beta = .137, p < .05$; Gentry et al., 2013). Affability, measured using the CPI Tolerance scale, also had statistical significance with the personality trait of decisiveness ($\beta = .183, p < .01$) and the political skill of social astuteness ($\beta = .297, p < .01$). Gentry et al. (2013) confirmed that both personality traits and political skills are valid and reliable means of evaluating effective leadership. These results again strengthened the validity and reliability of using the CPI 260 as a leadership assessment tool.

School Leadership

Researchers, scholars, and educational professionals widely accepted the belief that compulsory education is an important factor in preparing young adults for either entering institutions of higher learning or integrating directly into the business world following high school graduation (Edmunds et al., 2012; Murane, 2013). How adequately students master the challenge of preparing for either path can also be representative of how well they conquer the demands of pursuing a university degree or how well they accomplish the goal of adding value to business-oriented organizations (Murane, 2013). Students cannot prepare themselves for life after high school without receiving proper guidance and mentorship from others (Peck & Reitzug, 2012). An important factor that influences this guidance and mentorship, and eventually influences a student's success in

preparing for life after high school, is the quality of leadership abilities within those who deliver and manage educational programs within educational institutions (Branch, Hanusheck, & Rivkin, 2013; Smith & Addison, 2013). A study conducted by researchers at the Alliance for Excellent Education in 2011 indicated that high school dropouts earn between 29 and 36% less than high school graduates do. The introduction of a less-skilled workforce to the business community directly affects productivity and national gross domestic income standings in comparison to other developed nations. An associative relationship exists between the quality of school leadership and the impact high school graduates might have in the business world.

School leadership is so important to the business community that educational and business leaders often come together to discuss topics and points of interest that affect both educational institutions and business-oriented organizations (Bandur, 2012; Barza, 2013; Sondergeld, Johnson, & Walten, 2016). A lack of educational preparation within the incoming workforce concerns business leaders just as much as public views on the legitimacy of K-12 institutions concerns educational leaders (Sondergeld et al., 2016). A lack of interest and trust between schools and business leaders caused school–business partnerships and adopt-a-school initiatives to fail at establishing the intended constructive relationships between educational and commercial organizations (Sondergeld et al., 2016).

Students, parents, teachers, and other staff members view school leaders as those who project firsthand examples of proper leadership traits and ethical behavior (Burke et al., 2012). Students look to school leaders for guidance, mentorship, and examples of

how adults integrate into professional occupations after completing their educational pursuits (Kaufman, 2013). School leaders and teachers are often a student's first exposure to examples of how adults carry out their profession or trade. This cognitive experience can have a lasting impression on a student pursuing higher education or on those who desire to transition directly into the business world after high school (Fruith & Wray-Lake 2013).

Discussions between school and business leaders concerning the roles and responsibilities of school leaders and the degree of accountability they share in shaping the critical skills of future generations of business professionals have increased since the early 2000s (Branch et al., 2013; Leithwood & Sun, 2012; Sebastian & Allensworth, 2012). Because of the international globalization of business practices, business leaders even began stressing the importance of promoting foreign language instruction in the K-12 educational curriculum (Fryer, 2012). International studies and travel are important for producing global citizens (Doerr, 2012). Educational reforms and evolving complex global business environments complicate the tasks of defining successful school leadership and establishing the criteria that school leadership development programs should follow (Peck & Reitzug, 2013). Accomplishing these two challenges may also lead to identifying the leadership traits required of school leaders, determining which criteria to use to measure leadership traits, and examining how to develop particular leadership characteristics in school leaders.

Defining school leadership. Agreeing upon a common definition of leadership is just as difficult as defining the associated roles, responsibilities, and expectations of a

school leader (Searby, Browne-Ferrigno, & Wang, 2016). Defining effective educational leadership and establishing clear goals and objectives for educational leaders to pursue has been a struggle for scholars since the establishment of public schooling during colonial times in the United States. Conflicting ideological and political agendas catalyzed disagreement in identifying the responsibilities of educational leaders and determining how much influence they should have in molding the character and developing the basic skills of those who would become the future leaders of business and society (McMahon, 2013; Scott & Jabbar, 2014).

Evolving social challenges, such as industrialization, urbanization, and immigration, have catalyzed changes in how social and political leaders view the influences public schools have on the general population. Management and leadership practices in public schools have become similar to corporate models for leadership, decision making, and problem solving (Onorato, 2013). Recognizing this similarity was the start of closing the gap of indifference between business and educational leadership and refocusing educational leadership on quality education and student preparation for life after high school (Hallinger, 2013).

Woods (2011) conducted a Q-methodology study to capture differences in perceptions on school leadership between school business managers and school leaders' shared patterns of perception. Woods indicated that the respondents disagreed with the statement *Leading a school bears little relation to leading a business* and agreed with the statement *You don't need to know how to teach to run a school*. These results further strengthened the concept that business management skills are essential for supporting

student achievement and meeting organizational goals within educational institutions.

The results also further strengthened the importance behind measuring the business-related leadership competencies of school leaders as a means to determine if they possess the adequate qualifications to lead the organization to success.

Hitt and Tucker (2016) reviewed 56 research studies published between 2000 and 2014 related to three educational leadership development frameworks. The following five overarching domains of effective leader practices among the three frameworks: (a) establishing and conveying the vision, (b) facilitating a high-quality learning experience for students, (c) building professional capacity, (d) creating a supportive organization for learning, and (e) connecting with external partners. All five domains demonstrated a strong correlation between 28 examined leadership practices and student achievement (Hitt & Tucker, 2016). The strong correlation further expressed the importance of developing leadership competencies toward meeting organizations goals.

Educational leaders continue to face many of the same responsibilities and challenges that business leaders do. Educational leaders must develop strategic policies, prepare operational budgets, supervise and mentor other professionals, and consider stakeholder expectations when establishing institutional goals and objectives (Branch et al., 2013; Leithwood & Sun, 2012; Sebastian & Allensworth, 2012; Smith & Addison, 2013). Considering these leadership responsibilities creates a sophisticated interdisciplinary perspective of school leadership that extends beyond pedagogical and epistemological ideologies and incorporates business and management theories into a comprehensive definition of school leadership (Leo & Wickenberg, 2013; Watson, 2013).

A traditional definition of successful school leadership encompasses graduation rates (Brown, 2012; Grissom, Loeb, & Master, 2013; Grissom, Kalogrides, & Loeb, 2015). A more modern definition of school leadership includes more advanced elements of leadership, such as (a) the establishment of a positive learning culture, (b) the sustainment of ethical behavior, (c) appropriate and legal fiscal expenditures, (d) the conservation of resources and capital assets, (e) progressive improvement of educational programs, and (f) compliance with established reform requirements (Branch et al., 2013; Leithwood & Sun, 2012; Sebastian & Allensworth, 2012). Leadership-related practices that researchers expect of K-12 educational leaders include (a) promoting a shared vision, (b) establishing goals for improving student success, (c) setting expectations for staff performance, (d) coaching and mentoring staff members, (e) promoting collaborative cultural environment, (f) confronting the status quo toward achieving continued improvement, and (g) establishing a safe learning environment (Grissom et al., 2013, 2015; Leithwood & Sun, 2012; McCarthy, 2015).

A contemporary definition of school leadership incorporates concepts of social responsibilities and business sustainability that hold school leaders accountable for increasingly sophisticated aspects of business administration and leadership. This viewpoint on school leadership reinforced the proposal that comparing the personality traits of school leaders to those of business leaders could provide an understanding of the preparedness of school leaders to meet the challenges of leadership positions (Onorato, 2013). This viewpoint also indicated that an examination of leadership traits in school leaders could provide insight into the capacity of these leaders to transfer leadership

principles to future business leaders as they transition beyond high school (Brooke & Chiu, 2015).

Developing school leaders. The ultimate mission of an educational institution is to create a learning environment supportive of student achievement toward meeting or exceeding graduation standards. The overarching objective is to prepare students for the transition to institutions of higher learning or to integrate directly into the business world following high school. Meeting this objective requires a complex associative relationship between school leaders, teachers, and students, which is a relationship that balances on the leadership development and experience of school leaders (Hitt & Tucker, 2016).

Educational stakeholders expect school leaders to provide vision and guidance, which prepares teachers and other staff members to take appropriate actions and make appropriate decisions in support of higher level goals and objectives (Padro, 2012; Peck & Reitzug, 2012). Without proper school leadership, teachers may have the impression that they meet expectations within their particular area of expertise, but may not be supporting goals and objectives at institutional, regional, or national levels (Fox, Gong, & Attoh, 2015). Researchers often use student achievements and graduation statistics to evaluate how well school leaders faced the challenges of leading, guiding, and mentoring teachers or other staff members and to evaluate how well the institution has met the expectations of educational stakeholders (Sebastian & Allensworth, 2012; Smith & Addison, 2013).

A chain of interrelated events supports student achievement, beginning with the intricate development of school leaders, who are in turn responsible for developing

teachers and other school staff members responsible for developing students toward accomplishing the goal of meeting or exceeding standards for graduation (Smith & Addison, 2013). Experienced teachers largely possess adequate pedagogical skills to create a learning environment in the classroom. Equal to or more important than the pedagogical skills of teachers is the ability of school leaders to implement an institution-wide learning environment and to ensure educational programs support student achievement (Hitt & Tucker, 2016; Smith & Addison, 2013). Implementing an institutional and classroom-level learning environment demands that school leaders maintain situational awareness of all activities across the institution and that they are properly mentoring less experienced teachers (Smith & Addison, 2013).

Many school leaders are former teachers who may not have had proper mentorship from predecessors and may not have experience in, or exposure to, formalized leadership development education or training programs (Agic, 2012; Birkeland & Feiman-Nemser, 2012). In such a situation, participation in advanced leadership development programs designed to provide the knowledge, skills, and abilities needed to meet the challenges associated with a leadership position is imperative (Birkeland & Feiman-Nemser, 2012). Meeting the expectations of teachers, students, parents, and other stakeholders may require further development of the leadership characteristics of school leaders. Establishing leadership development programs that prepare both current and future school leaders to meet stakeholder expectations is a challenging feat (Burke et al., 2012).

The leaders of multiple leadership development programs have the intention to provide school leaders with the knowledge, skills, and abilities to fulfill the challenging roles and responsibilities of a leadership position (Burke et al., 2012; Cumberland et al., 2016). In 2012, leaders of the Kentucky Chamber of Commerce recognized the need for a specialized leadership development program to provide school leaders with the knowledge, skills, and abilities needed to meet present and future leadership challenges (Browne-Ferrigno, 2013). The Chamber of Commerce leaders solicited numerous school principals to participate in an executive-level leadership training program developed by the CCL. The focus was on preparing mid- to senior-level managers to face leadership tensions and to develop their confidence in building leadership commitment and establishing results-based strategies. The program designed by the CCL for school leaders also added school-related administrative, management, and pedagogical topics to the standard curriculum to provide the principals with a well-rounded and customized program aimed at preparing them for the unique role as a leader of an educational institution (Browne-Ferrigno, 2013).

The Office of Professional Development staff at the Jackson Public School District Headquarters in Mississippi developed an Instructional Leadership Institute to address school leadership development in four stages: (a) Aspiring Leaders Academy, (b) Junior Administrators' Academy, (c) Novice/Young Principals' Academy, and (d) Veteran Principals' Academy (Smith & Addison, 2013). The focus of each stage was on the unique leadership development requirements and criteria aimed at recruiting, selecting, and preparing school leaders to fill high-need roles within the school district.

Essential business-related skills taught in each stage included analysis and interpretation of data and necessary fulfillment of a results management cycle (Smith & Addison, 2013). The goal of the program was to develop a professional learning environment aimed at training and developing a new generation of teachers and learners to support the stakeholder expectations of a complex 21st-century society (Smith & Addison, 2013).

Leaders of professional development organizations such as the CCL and locally established leadership institutes strategically develop and configure leadership development programs to address both universal and individualized leadership development requirements. Traditional methods for developing school leaders may not fully prepare them for their modern roles. Measuring leadership characteristics can provide insight into how prepared leaders are to meet new leadership challenges (Orphanos & Orr, 2014). These measurements can also serve as a benchmark for comparison following leadership development programs and initiatives (Kulas, 2013). The leadership development of current and future school leaders can have a profound impact on preparing students for life after high school and future integration into the business world.

School Leadership and Social Responsibilities

As the daily administrative functions and demands of an educational institution more closely mirror those of a traditional business-oriented entity, many corporate social responsibilities also apply to nonprofit educational institutions (Santamaria, 2014). An important factor in the successful implementation of educational programs, and in meeting the compliance requirements of social responsibilities and stakeholder

expectations, is the quality of leadership characteristics within members of the school staff (Liasidou & Svensson, 2014). An expectation exists that both current and future school leaders will fulfill the roles and responsibilities of their entrusted positions as much as possible. Educational stakeholders entrust these leaders with preparing students both socially and academically for life after high school (Stephens, Markus, & Phillips, 2014). School leaders must be aware of the roles, responsibilities, goals, and objectives they are accountable for; the associated evaluation criteria; and the ways their actions as school leaders affect students, families, and society (Lynch, 2012). School leaders must also ensure educational programs align with stakeholder expectations and provide the business environment and universities with the best quality high school graduates.

Origins of corporate social responsibility (CSR). The concept of holding businesses accountable against the expectation of stakeholders at the societal level has existed almost as long as the concept of conducting business (Smith & Alexander, 2013). Open discussions and academic research on corporate social responsibility (CSR) at the macro-social level, however, did not begin until the 1950s, which coincided with the publication of *Social Responsibilities of the Businessman* by Howard Bowen (Murphy & Schlegelmilch, 2013). Academic and business professionals at the time did not take the concept of CSR seriously and considered CSR irrelevant toward establishing profitable business ventures. Even in the late 1970s, business leaders still mentioned the concept of CSR in a humorous manner, and businesses took a take-it-or-leave-it approach to adopting CSR theories (Hack, Kenyon, & Wood, 2014).

By the 1990s, CSR evolved to include the topics of stakeholders, consumers, business ethics, corporate citizenship, and corporate social performance in discussions and debates (Smith & Alexander, 2013). By 2013, 98% of all *Fortune* 500 companies included some reference to CSR on their public websites (Smith & Alexander, 2013). Concern among the public about an organization's ability to meet stakeholders' expectations became an integral component of strategic management and leadership theories at various academic and business levels (Dillon, Back, & Manz, 2014). Not long after the 2013 improvements, business operations developed into a service to society and business leaders' concern about organizations' responsibilities to employees, customers, business partners, vendors, and government agencies grew stronger.

In 2010, the International Organization for Standardization (ISO) published guidelines for leaders of businesses and organizations to follow in an attempt to operate in a socially responsible manner and according to societal expectations (Helms, Oliver, & Webb, 2012). Analysts at ISO titled the guideline ISO 26000 and included in the guidance the best practice principles for all organizations to follow, regardless of profitability status or funding source. A collaboration of 500 experts from various industries and government agencies developed the guideline over a 5-year period, culminating with its recognition as an international standard. The international community also recognizes the standard as having applicability to business operations of all types and usefulness as a framework for measuring organizational performance. The ISO standard now includes seven core topics that represent a holistic approach to addressing CSR: (a) organizational governance, (b) human rights, (c) labor practices, (d)

the environment, (e) fair operating practices, (f) consumer issues, and (g) community involvement and development (Hahn, 2013).

Leaders of organizations and agencies around the world accept ISO 26000 as a standard applicable to all organizations, whether private, public, or nonprofit, and as a bridge between differences in the governance of private and public organizations (Tschopp, Wells, & Barney, 2012). This approach at defining a global social responsibility concept represents an attempt to add transparency and transposition to a transnational and intergovernmental framework of globally accepted social standards and points of accountability for all organizations (Brammer, Jackson, & Matten, 2012). At the educational organization or institution level, the majority of effort in promoting global responsibility standards lies with school leaders (Weiss, Templeton, Thompson, & Tremont, 2015). Current and future school leaders can use the ISO 26000 standards as a framework to guide successful interaction with community-level stakeholders and to sustain responsibilities to society (Padro, 2012).

In 2013, Linnenluecke and Griffiths categorized the evolution of CSR and related corporate sustainability into four distinct genealogies: (a) corporate social performance, (b) the stakeholder theory, (c) corporate social performance versus economic performance, and (d) the greening of management debate. This categorization further demonstrates how the concept of CSR has elevated from the macro social level to the organizational/stakeholder level and has become a topic of meaningful discussion within modern academics on business leadership (Benedek, Takács, & Takács-György, 2014; Dillon et al., 2014). Even though experts still fail to agree on a universal definition of

CSR, it has become a universally accepted theory that individuals, organizations, and corporations all have a social responsibility to fulfill, whether they accept those theories or not (Hack et al., 2014).

School leadership social responsibility and accountability. Society trusts national and local governments to develop and administer educational programs expected to prepare graduates academically for life after high school. Higher level government agencies, through contracts with private research companies, frequently develop and approve the educational programs that school leaders must then implement. The responsibility and accountability for graduation and drop-out rates, as well as the follow-on success or failure of graduates to either integrate into the business world or enter institutions of higher education remain solely with school leaders and teachers (Johnson, Simon, & Mun, 2014). Inexperienced school leaders and teachers may not be up to the challenge and may not possess the leadership skills needed to meet stakeholder expectations (Peck & Reitzug, 2013).

Stakeholders often hold contemporary school leaders responsible for multiple, progressive, and sometimes conflicting expectations (Sondergeld et al., 2016). Public demands for school reforms lead to open declarations of social responsibilities associated with U.S. government-funded compulsory educational institutions. The administrative tasks school leaders must complete resemble the administrative tasks required of business leaders (Onorato, 2013). This similarity further requires that school leaders possess leadership characteristics and traits similar to those of successful business leaders to ensure they meet established goals, objectives, and stakeholder expectations. Meeting

these requirements may require advanced leadership education, development, and an evaluation of individual leadership characteristics to determine where to focus individual developmental needs (Casey et al., 2013).

School leaders and teachers working in impoverished or multicultural neighborhoods face a more difficult challenge of successfully implementing educational programs in comparison to other educational environments (Ceballos & Sheely-Moore, 2015). Working in challenging and demanding environments may also generate a greater need for leadership development to compensate for and adjust to the more complex and dynamic environment. The more complex the demographic and ethnographic composition of the student body becomes, the more complex become the roles and responsibilities for which the school staff is responsible (Wilson, 2015). At a minimum, all school leaders and teachers should carry out their roles and responsibilities in a manner that closely follows the CSR principles of accountability, transparency, and ethics, as well as respect for laws, stakeholders, and environment (Mežinska, Lapiņa, & Mazais, 2013).

Developing and implementing social responsibility in school leaders. As the roles and responsibilities of modern school leaders closely mirror those of a corporate executive, school leaders could obtain a great deal of knowledge by studying corporate management and leadership theories and principles (Onorato, 2013). One of the underlying theories for successfully implementing social responsibilities within corporations is on integrating the awareness of CSR principles into corporate leadership education and development programs. If corporate-level management and leadership

understand, openly accept, and support the belief that CSR can have a positive impact on business performance, then support for CSR activities and practices can propagate throughout the organization and will embed itself within the organizational culture (Herrera, 2015). Developing and implementing the concept of social responsibilities within educational institutions could follow a similar approach (Padro, 2012).

While researching the topic addressed in this study, a vast amount of literature on the importance of transferring the concept of socially responsible behavior onto students surfaced. Many of the same literary works also included a focus on the topic of how teachers, and other staff members, can fulfill their roles in developing social behavior in students as a means of helping them prepare for entrance into the business world. Limited literature is available that addresses the social responsibilities of an educational institution as an organization that provides services to society (Capper & Young, 2014).

Although scholars and practitioners do not address the topic of social responsibilities of educational institutions, stakeholders should not have the impression that researchers have not addressed the topic at all. The leaders of many organizations such as the Kentucky Chamber of Commerce understand the importance of supporting advanced leadership education for school leaders and the implementation of CSR concepts within school environments (Browne-Ferrigno, 2013). Many university-level programs in educational leadership include both leadership development and social responsibilities within the curriculum (Larson & Miller, 2011). There remains, however, a lack of consensus regarding what knowledge, skills, and abilities society should expect of school leaders and what topics educational leadership curricula should include (Larson

& Miller, 2011). These university-level programs are also not available to experienced teachers who excel in leadership positions within the school system. These former teachers who became leaders lack exposure to the same leadership education and development curriculum that new school leaders obtain at the university level before entering their first employment position on a school staff. The professionals may have to turn toward self-development methods for learning new concepts of social responsibility and school leadership (Burke et al., 2012; Cumberland et al., 2016), this, however, would require an assessment of current competencies such as conducted in this study.

Debates concerning an individual's responsibilities for developing leadership skills through self-study programs or seminars also exist (Dole, Bloom, & Kowalske, 2016). Self-study programs that do not address specific leadership skills needing further development are ineffective (Dole et al., 2016). Therefore, such programs need an individual focus to avoid reinforcing strong leadership skills and ignoring the weaker ones. A formalized assessment of leadership skills would be appropriate and highly effective in providing self-developing leaders with a point of focus (Barber, 2015). In contrast, generic self-assessment tools often have poor designs and do not address unique leadership development requirements at the individual level (Nesbit, 2012), subsequently supporting the need for this study.

Limitations in research associated with school leadership development and the relationship of social responsibilities on educational institutions serve to limit development and advancement in these areas as well (Hitt & Tucker, 2016). As the roles and responsibilities of school leaders evolve and become more complex, and as the

interdisciplinary view of school leadership becomes more complex, the need for school leaders to acquire the same opportunities for leadership development as business leaders becomes increasingly critical (Leo & Wickenberg, 2013; Watson, 2013). Also critical is the integration of social responsibilities into leadership development programs to ensure school leaders can continue to lead in a new globalized and complex environment and continue to comply with legislative requirements of educational reforms (Scott & Jabbar, 2014).

School Reform and Leadership

Throughout Western history, an important component of successful educational reform has remained the participation and support of educational, political, and business leaders (Hitt & Tucker, 2016; Thorpe, 2012). The participation of these leaders has been necessary to develop appropriate educational reform and to express the importance of education toward developing society and supporting future business ventures. The United States was once a leader in precollege educational performance, yet many nations have surpassed the United States in student performance and educational accomplishments (Lee, 2014). Many nations whose leaders failed to embrace the importance of education remained third-world nations and failed, for the most part, to integrate into global commerce (Blackmore, 2016). Industrial and technological advancements in the United States led to ignoring the need for educational development and the need to develop educational leaders. In an era of global economic development, it is important to maintain educational programs that produce highly skilled and creative workers and business professionals. Recruiting teachers and school administrators from a pool of highly

qualified educational leaders and establishing developmental programs to advance these professionals to the highest possible levels of leadership performance is also important to implementing reform strategies successfully (Engel & Cannata, 2015). Through well-established educational programs and a highly qualified educational staff, the nation can increase the intellectual and creative capacity of students, remain competitive on a global scale, and continue to enhance the economy (Sparapani, Perez, Gould, Hillman, & Clark, 2014).

Educational reform initiatives. Many scholars, politicians, and religious leaders throughout history promoted the belief that small improvements in educational programs propagate larger improvements in the quality of life for society (Scott & Jabbar, 2014). The origins of classical educational reform in Western culture go back to the teachings of Socrates, Plato, and Aristotle. Socrates instilled critical-thinking skills in students with the intent of making them better thinkers and leaders by promoting alternative learning processes and forcing them to doubt the logic of their teacher as well as their own (Daniel & Auriac, 2011). Historical records credit Plato with establishing the first formal educational institution in the Western world: the Academy in Athens. These same records signify Plato's doubt toward the success of compulsory educational programs, as well his insistence on only instructing those who expressed a true desire to learn (Antonakis, Day, & Schyns, 2012). Politicians did not widely accept the reform initiatives of classical scholars, and they criticized philosophers for attempting to undermine democracy. Critics in the United States proclaim that 21st-century educational reform initiatives back political agendas and that the true focus is not on improving student performance or

improving secondary effects on the business world (Moe, 2015; Reckhow & Snyder, 2014; Savage & O'Connor, 2015).

The same ideological and political disagreements that complicate discussions of what educational leaders are responsible for also complicate discussions on how to improve educational programs for the benefit of stakeholders and the nation (Savage & O'Connor, 2015; Scott & Jabbar, 2014). In 2014, Wait wrote that educational leaders in power positions might use reform initiatives as a means to promote or benefit themselves or specific stakeholders. These types of actions, executed by ill-placed leaders, undermine the true nature and intent of educational reform initiatives and are detrimental to teacher–student relationships and student performance (Wait, 2014).

In 1965, the Johnson administration enacted the Elementary and Secondary Education Act to provide additional funding for leaders of educational institutions to use to promote educational reform and meet local and regional challenges (Yettick, Baker, Wickersham, & Hupfeld, 2014). The act was part of President Johnson's War on Poverty initiative, with an intended purpose of using the funding provided to close the learning gaps in reading, writing, and mathematics that many educators reported (Erskine, 2014). As the result of an underlying fear that the national government would interfere in state-level educational decision making, the Johnson administration allowed school leaders increased leeway in administering the additional funds as they saw fit. Although many critics expressed concern about leadership's misuse of funding, researchers believe that the funding still promoted the advancement of educational programs in rural schools (Robinson, 2016).

In 1981, the U.S. government created the National Commission on Excellence in Education (NCEE) to investigate the quality of education in the United States. The commission consisted of an eccentric group of educators, politicians, business elites, and teachers who possessed a community-oriented approach toward improving the quality of educational in the United States (Plunk, Tate, Bierut, & Grucza, 2014). In 1983, the NCEE published a report titled *A Nation at Risk: The Imperative for Educational Reform*, which educational reform advocates now consider a benchmark in modern American educational history (Plunk et al., 2014). The report indicated that schools in the United States failed to produce high school graduates capable of succeeding in institutions of higher education or successfully integrating into the business world (Howe, 2014).

Education reform advocates have criticized the NCEE for not using standardized means of measuring excellence in educational performance in the United States and for generating reports that followed political agendas as opposed to focusing on the grassroots need for educational reform (Kolderie, 2014). Other advocates still credited the 30-year-old initiative for seeding U.S. federal involvement in tracking student performance in compulsory educational institutions and for having seeded the modern focus on standardizations and leadership accountability within schools (Coburn, Hill, & Spillane, 2016). The concepts of recruiting teachers from the business community to provide real-world practitioner experience in teaching subjects, such as science and math, and holding teachers more accountable for the responsibility of providing leadership toward attaining reform in education, originated in the 1983 report. Even though other advocates discredited the report for containing skewed views of educational reform and

flawed statistical data, the report also made an indirect impact on economic progress in the United States by increasing the baseline education of the young workforce (Koyama & Varenne, 2012).

In 2011, the Bush administration enacted the No Child Left Behind Act as part of the periodic reauthorization of the 1965 Elementary and Secondary Education Act. Different administrations passed the acts as part of presidential campaigns designed to address access to proper education by underprivileged children in the United States. The 1965 act established federal and state funding for public school systems, whereas the intent of the 2001 act was to hold state and school leaders more responsible for student achievement (Whitt, Scheurlich, & Skrla, 2015). The No Child Left Behind Act of 2001 placed higher demands on school leaders to increase test score performance and graduation rates as a representation of providing better support to businesses and institutions of higher education (McQuinn, 2012). The act made a distinct connection between the quality of K-12 education and the ability of high school graduates to function effectively in the business world. Similar to the 1983 *A Nation at Risk* campaign, school leaders viewed the No Child Left Behind Act of 2001 as politically motivated and resisted implementing any of the legal provision and requirements contained in the act (Whitt et al., 2015).

The Obama administration passed the American Recovery and Reinvestment Act of 2009 to stimulate the economy. This act provided provisions for funding educational improvement grants as a component of the Race to the Top initiative. The intent of the initiative was to award grants to local and state-level K-12 institutions that had strong

records of accomplishment and plans for innovation and could demonstrate key stakeholder commitment to reforms (McQuinn, 2012). This reform initiative required school leaders to establish leadership frameworks that closely reflected those required of corporate business leaders (Onorato, 2013). Improved development and evaluation of teachers as a means of driving student performance was a key component of this framework (DuFour & Mattos, 2013). The initiative was an attempt to revitalize failed agendas from the No Child Left Behind Act of 2001 initiative and to provide school leaders with the capacity to establish new and innovative sustainment policies (McQuinn, 2012).

Because of increased state-level resistance toward the American Recovery and Reinvestment Act of 2009, in 2012 President Obama granted many states an exemption from meeting 2014 established targets under the pretense that educational leaders would continue to make progress in improving standards, accountability, and teacher effectiveness without federal-level interference (Domina, 2014). One of the flawed assumptions underlying the No Child Left Behind Act of 2001 was that educators could overcome the socioeconomic disparities causing substandard achievement (Perzigian, Afacan, Justin, & Wilkerson, 2016). This assumption led to a failure to close identified gaps in educational achievement in the United States (Erskine, 2014).

In 2015, to demonstrate his continued and dedicated contribution to the War on Poverty, President Obama approved the Every Student Succeeds Act in conjunction with the 50th anniversary of the reauthorization of the Elementary and Secondary Education Act. In his presidential address surrounding the reauthorization, President Obama

proclaimed that, although the United States had made progress in the areas of income poverty and disparity in nutrition, educational inequalities associated with the socioeconomic status of children had worsened (Waldfogel, 2016). Some scholars proclaimed that since the 1965 authorization of the Elementary and Secondary Education Act, efforts in closing the gaps in student achievement have been nearly a complete failure (Kane, 2016). The lack of expert knowledge among state and local leaders, and the lack of support to leaders from the research community, contributed to these failures (Kane, 2016).

It is clear that educational leaders play an important role in the successful implementation of educational reforms. Educational reform initiatives such as No Child Left Behind and Race to the Top placed higher demands on school leaders to increase performance on test scores and graduation rates as an impression of providing better service to businesses and institutions of higher education (McQuinn, 2012). These types of reform initiatives create a sense of competition between schools districts, with each trying to outperform the other to increase the share of a finite source of funds; the process resembles businesses competing for market share and profits by establishing business strategies (Destler & Page, 2016). A 2007 report titled *A Joint Platform for Education Reform* centered on the assumption that if U.S. businesses can achieve world-class excellence in the global business commerce, then educational institutions should be able to achieve world-class excellence in student performance (Finch, 2012). This reasoning is another inference that educational leaders have a lot to learn from business leaders, supporting the need for further study.

Educational leader responsibilities. Educational leaders are responsible for molding the character and developing the basic skills of future leaders of business and society (Hambacher & Thompson, 2015). A major requirement in meeting this objective is to ensure educational reform initiatives are innovative and creative enough to keep up with modern economic developments (Scott & Jabbar, 2014). The 2007 *A Joint Platform for Education Reform* report indicated that educational leaders at the U.S. federal, state, and district levels needed to implement more innovative educational practices and school models to improve school performance (Finch, 2012). The report also indicated that well-documented business practices are often absent at educational institutions. Successful corporate businesses often include management and leadership practices that result in lean, accountable, flexible, and high-achieving environments (van Rossum, Aij, Simons, van der Eng, & ten Have, 2016). The inability of leaders within many educational institutions to achieve the same excellence in performance indicates that these institutional leaders may still have much to learn from leaders of business organizations.

Establishing and strategically implementing education programs that prepare students to complete high school, to assimilate into the business world, or to integrate into institutions of higher learning successfully is a primary responsibility of educational leaders (Sebastian & Allensworth, 2012). Educational reform initiatives often refer to high school graduation and dropout statistics as a means to defend their political position in support of the need for changes in educational legislation (Thorpe, 2012). The educational programs that influence graduation rates require continuous review and improvements to ensure they meet changing stakeholder expectations and the demands of

an evolving global business environment. This approach parallels the business process improvement and lean initiatives that corporate entities regularly undergo to make business operations more efficient and effective.

Educational stakeholders expect educational leaders to take an active role in the process of continuously improving educational programs. This process also requires the continuous development of pedagogical and leadership skills in educational leaders to ensure they have the knowledge, skills, and abilities to develop and implement strategic educational programs properly. Educational leaders can further learn from the corporate world by studying corporate management and leadership theories and principles associated with developing strategic plans (Whitworth & Chiu, 2015). However, as the roles and responsibilities of contemporary school leaders evolve and more closely mirror those of business leaders, the need for innovative and creative educational programs also evolves. This evolution generates a never-ending cycle that requires the continuous evaluation and development of leadership skills in educational leaders to ensure educational leaders can meet both existing and future leadership demands (Burke et al., 2012).

Transition and Summary

A thorough review of existing literature revealed that a connection exists between the business-related leadership competencies of K-12 staff members and the impact the lack of these competencies can have on high school graduates, businesses, and society. A critical factor common within the literature is the leadership competence of educational leaders responsible for sustaining high school graduation rates and student performance.

Members of society expect these educational leaders to develop and implement best practice educational programs, as well as to sustain efficient business operations within educational institutions (Sebastian & Allensworth, 2012).

Although an abundance of literature referencing business leadership theories and principles exist, few scholarly works address how these theories and principles apply to educational leaders (Onorato, 2013). Even fewer scholarly works exist that propose which research methods or data collection tools researchers can use for researching leadership in an educational context (McFadden, 2013). Furthermore, researchers conduct little to no research on measuring the business-related leadership abilities of educational leaders to determine if they maintain the business-oriented capacity to assume the demanding and complex roles and responsibilities of such an important position (Goldring et al., 2009).

The lack of empirical data on educational leadership catalyzes differing viewpoints among educational professionals regarding the practicality of such research (Hallinger, 2014) and has led to a gap of knowledge between theory and practical application (Hakim et al., 2014). A need exists for more evidence-based and design-based research, as well as more cooperation among educational leaders, teachers, and administrators (Vanderhoven, Schellens, Vanderlinde, & Valcke, 2016). Such research and cooperation would serve as a means to close the gap and ensure existing research would result in practical applications and improvements of working environments.

As globalization in the business world evolves, the concept of leadership and its effects on future business operations also evolves. A need exists for future scholarly

research on the relationship between leadership responsibilities and corporate social responsibilities in a globalized economy (Voegtlin, 2011). This research may serve as a means for changing schools of thought about leadership and the responsibilities of leaders within organizations and would emphasize the importance of the relationship between them (Voegtlin, 2011). As the roles and responsibilities of school leaders evolve, the need for additional research on the impact of leadership development practices on organizational and student performance continues to grow (Hackmann, 2016). Such research would lead to the development of improved educational leadership preparation and selection programs and would ensure personnel entrusted with the critical role of leading educational institutions are the most qualified candidates. The business-related leadership competence of educational leaders is important to providing a qualified workforce and sustaining national, regional, and local economic stability.

The following section reinforces the importance of developing the business-related leadership competencies of school leaders. The research project served to establish a means for measuring these competencies and comparing the measurements to the normalized standards for successful business leaders. Such a comparison could determine if a need exists for improvement in the business-related professional development initiatives of school leaders. Improving the business-related leadership competencies of school leaders could prepare them to meet the demands of contemporary educational leadership positions and to meet stakeholder expectations for both school and student performance.

Section 2: The Project

The intent of this quantitative comparative research project was to examine the business-related leadership competencies in a sample of leaders within K-12 institutions in the United States. The project involved using the CPI 260 assessment to measure educational leaders' folk scales and to determine if the educational leaders possessed the knowledge, skills, and abilities needed to function effectively. The CPI 260 assessment is one of the most accurate and reliable instruments to measure the leadership abilities of leaders across multiple industries (Gough & Bradley, 2005). To support this research study, I completed a CPI 260 certification course to gain a deeper understanding of the assessment tool and to become fully qualified in administering the tool without requiring additional consultancy services (see Appendix D).

The trait and behavior theories of leadership formed the primary theoretical framework for this study. The focus of this study, however, was not to compare and contrast leadership theories, but to examine whether leaders at K-12 schools throughout the United States possess the business-related leadership competencies recognized as being critical for successfully leading a contemporary educational institution. The CPI 260 assessment tool was suitable for providing a deeper analysis of these business-related leadership competencies (Burke et al., 2012; Scott & Jabbar, 2014), and the results provided a complex examination of how well prepared contemporary educational leaders are to meet the roles and responsibilities of their demanding positions.

A review of professional and academic literature revealed how important these leadership competencies are toward fulfilling social responsibilities and preparing young

adults for successfully integrating into a global business environment after high school (Jacobson & Cypres, 2012). The development and implementation of educational reforms alone have been ineffective in improving educational programs and adequately preparing high school graduates to add value to the business world (Anderson & Donchik, 2016; Burke et al., 2012). A deeper analysis of leadership abilities could lead to the improved selection and development of K-12 educational leaders, as well as improved value added to local, regional, national, and global business environments (Casey et al., 2013).

Purpose Statement

The purpose of this quantitative comparative study was to determine if a significant difference existed between the mean leadership scale value of a sample and that of an executive norm group. The sample included both current and aspiring organizational leaders employed within K-12 institutions throughout the United States. The executive norm group included business executives who participated in a leadership development program at the Center for Creative Leadership (CCL). The mean CPI 260 Leadership scale value derived from a sample of CPI 260 assessments was used as the test variable, and the executive norm group mean CPI 260 Leadership scale value of 62 was used as the test value.

An analysis of the leadership qualities of educational leaders could help HR professionals respond to stakeholder concerns concerning the selection and development of school leaders. The selection and development of K-12 educational leaders also affects the ability of an educational institution to provide skilled and educated young adults to the business community as the next-generation workforce. Limitations to leadership

qualities within the sample, identified through comparison with the desired leadership qualities measured by the CCL, can provide valuable insight toward improving leadership development programs and toward preparing school leaders for the contemporary roles and responsibilities associated with being a school leader (Birkeland & Feiman-Nemser, 2012; Onorato, 2013).

Role of the Researcher

My role as a researcher in the data collection process was to explain the process to each participant and to address any concerns the participants may have had before, during, and after collecting data. To obtain a better understanding of the chosen online assessment tool and of how to use the assessment for studying and researching the topic of leadership, I attended a training and certification course hosted by the assessment copyright holder. This training and certification qualify attendees to administer the online assessment tool and to conduct voluntary feedback sessions with each participant. All assessment responses will remain anonymous in all published research reports, and I will safeguard the identities of research participants for not less than 5 years. Although I possess over 20 years of employment experience within the U.S. government, I never accepted a position within a government-operated educational organization and never worked directly with any of the research participants.

Participants

The target population comprised employees who held a supervisory or leadership position within K-12 institutions throughout the United States. I recruited a random sample of research participants from this population. Volunteer participants received

instructions in the form of an invitation flyer posted to social media platforms or as an attachment to an e-mail message sent to K-12 professionals. Random sampling in quantitative studies achieves a more representative sample, increases the ability to replicate a study, and improves the analytical generalization and transferability of the study (Allwood, 2012).

Participants contacted me directly to coordinate access to the online assessment tool and to receive the required consent form (see Appendix E). All contact between the researcher and research participants, as well as all responses to the online assessment tool, remain anonymous in all published research material. All material that reveals the identities of participants will remain secure for 5 years before destruction. Participants received a CPI 260 Coaching Report for Leaders as an incentive for participating. Research findings do not contain information found in the coaching reports, as the reports are for individual participant use only.

Research Method and Design

Demonstrating why a particular research method and design are appropriate and how the methods of data collection and analysis support the chosen design is an important task researchers must accomplish (Anderson & Shattuck, 2012). The examination, comparison, and analysis of leadership abilities can be most effective when using a quantitative research method (Birkeland & Feiman-Nemser, 2012; Onorato, 2013; Scott & Jabbar, 2014). Comparative research methods suit the goals of examining differences in quantitative measurements obtained from two groups of research participants and theorizing on possible causes for the observed phenomenon (Babaei,

Chaiichi-Mellatshahi, & Najafi, 2012). The CPI 260 assessment tool provides an accurate and reliable quantitative measurement of leadership characteristics and personality traits of individuals (Gough & Bradley, 2005). Use of a comparative analysis research method supports the comparison of a mean personality trait within a sample to normalized standards.

Research Method

This research project included a quantitative comparative research method to compare the mean value of CPI 260 Leadership scale measurements within a random sample of K-12 school leaders throughout the United States, with the mean CPI 260 Leadership scale value of 62 ($\mu = 62$) measured by the CCL for a group of executive business leaders labeled as the executive norm group. Random sampling is the best strategy for achieving a representative sample of a larger population and for ensuring the statistical model includes generalization (Allwood, 2012). Researchers can compare two means using either a one-sample *t* test or an analysis of variance *F* test (Crawford & Garthwaite, 2012). An analysis of variance is most reliable when used to compare the mean values of two or more large samples that have equal variances and distribution (Crawford & Garthwaite, 2012). If the variance and distribution between the two samples are unknown, or if the sample consists of a single group, then a one-sample *t* test is the more appropriate research design (De Winter, 2013).

When the distribution of a single sample is difficult to determine, a normal and symmetrical distribution within the sample is an assumption based on the central limit theorem (Kojadinovic & Yan, 2011). Researchers can use a normal distribution to

estimate the actual distribution of the sample, just as they can use the variance within the sample to estimate the variance for a larger population (Kojadinovic & Yan, 2011). The distribution of real-world data is often irregular and skewed, and researchers should not consider distribution a priority assumption when performing data analysis (Cox, McIntosh, Reason, & Terenzini, 2014).

Researchers use one-sample t tests to make inferences about the population mean based on the distribution, variance, and mean of the sample (Crawford & Garthwaite, 2012). Researchers also use data from a one-sample t test to determine confidence intervals based on the degrees of freedom, df or $n - 1$, where n equals the number of participants in the sample (Lakens, 2013). The t test is robust against the test of normality, especially with small sample sizes, and is appropriate to use for research involving a nonnormal distribution (De Winter, 2013).

A confidence level of 95% (p value) helped to determine the two-tailed confidence interval and the probability that a significant difference might occur by chance as opposed to by scientific analysis, as recommended by Crawford and Garthwaite (2012). A p value less than .05 would indicate that the difference between the test variable and the test value was statistically significant, and the null hypothesis (H_0) would be rejected in favor of the alternative hypothesis (H_A ; Aquilonius & Brenner, 2015). A p value greater than or equal to .05 would indicate that the difference between the test variable and the test value was not statistically significant and the researcher would not reject the null hypothesis (H_0 ; Aquilonius & Brenner, 2015).

This confidence interval ensured the minimization of the probability of a Type I error ($\alpha \geq .05$), which is a false rejection of the null hypothesis, also known as a false positive (Mudge, Baker, Edge, & Houlahan, 2012). When sample sizes are small or limited, ensuring the minimization of a Type II probability error ($\beta \geq .01$), or failing to reject a false null hypothesis, also known as a false negative, is also important. Examining the effect size (d) of the test helps to determine the probability of a Type II error occurring (Lakens, 2013).

Research Design

This study included a true–false survey design and a scientific postpositivist worldview based on empirical observations and the verification of theories and hypotheses, as recommended by Overton (2015). The survey tool used was the CPI 260 assessment that uses the responses to 260 true–false survey questions to calculate 20 correlating folk scales. The basis of these folk scales is empirical research that aims to predict what people will say or do in particular situations and to identify meaningful and differential ways others would describe those people. This type of survey design provides a more accurate representation of leadership characteristics than other surveys developed from individual-based, as opposed to observer-based, empirical research (Gough & Bradley, 2005).

Analyzing measured folk scales can determine how an individual’s leadership skills differ from those of an established norm group. A quantitative comparative research method and design can examine the quantitative relationship between variables and measured leadership attributes. Goldring et al. (2009), Judge et al. (2002), and

Quaquebeke and Eckloff (2010) demonstrated that the use of scale-based survey tools is highly effective in studying and comparing the leadership traits of individuals and groups. Measured correlations indicate that a relationship does exist between effective leaders and the ability of an organization to meet goals and objectives and to provide true stakeholder value.

Population and Sampling

The random probability sample consisted of K-12 educational leaders working in CPI 260 category 3, 4, 5, and 6 (supervisory to top executive) positions at both public and chartered schools throughout the United States. A probability sample more closely follows a normal distribution and coincides with the central limit theorem (Burnecki, Wylomanska, & Checkin, 2015). Using a nonprobability sample can increase the occurrence of false-positive findings and a false representation of the population group (Levay, Freese, & Druckman, 2016).

The CPI 260 instrument has a built-in mechanism for identifying fake-good and fake-bad survey responses (Gough & Bradley, 2005). Fake-good responses indicate that a participant might have overstressed their favorable or commendable qualities, whereas fake-bad responses indicate that a participant might have overemphasized personal problems, worries, or feelings of alienation. The calculation of the sample mean did not include assessments marked as either fake-good or fake-bad.

The G*Power sample size calculator is suitable to determine a minimum recommended sample size (Mayr, Erdfelder, Buchner, & Faul, 2007). Based on a comparison between the normalized CPI 260 Leadership scale mean value for the general

population ($Lp = 50$) and the mean CPI 260 Leadership scale value for the executive norm group ($Lp = 62$), the G*Power calculator recommended a sample size of at least $N = 54$. This recommended a sample size would provide a medium effect size of $d = 0.5$ and a power of $\alpha = 0.95$. After 15 months of extensive and expensive recruiting efforts, only 20 valid participants had volunteered to participate. The G*Power calculation for this smaller sample size ($N = 20$) was a medium effect size of $d = 0.5$ and a power of $\alpha = 0.56$.

Ethical Research

Participation in this research study was strictly voluntary, and the study did not include any persons identified in the U.S. Department of Health and Human Services protected classes of research subjects. All participants reviewed the adult consent form located in Appendix E. The personal identity of participants will remain confidential in all published research data. I was able to identify individual surveys using a unique client identification number assigned by the CPI 260 assessment tool. None of the participants notified me to have their results omitted from the research data analysis.

As an incentive to participate, each participant received an individual CPI 260 Coaching Report for Leaders, which included a narrative result of their individual survey responses. The report is a powerful leadership development tool for those who desire to examine and improve their leadership qualities. These reports are also available to anyone who completes the CPI 260 assessment as part of a leadership development program and served as a gesture of thanks for participating in my research study. The reports were provided to and for individual participants only, and were not shared with

third parties. The contents of each report will remain confidential and will not appear in any statistical research data or analysis. I will maintain all research material using external digital media secured in a lockable container for 5 years before permanently destroying all the material.

Instrumentation

The instrument used for the research study was the CPI 260 assessment. The copyright holder for this instrument, CPP, Inc., provided a special agreement with me to use the instrument for educational research (Appendix F). The CPI 260 assessment measures 20 folk scales that provide a veridical representation of competencies and attributes of personality, six special purpose scales that relate to workplace orientations, and three higher order vector scales that represent near-zero intercorrelations between the 20 folk scales (Gough & Bradley, 2005). Years of qualitative and quantitative empirical research have normalized these scales derived from self- and observer-based assessments of behaviors and competencies with the intent of portraying individuals as knowledgeable and objective bystanders would describe them (Gough & Bradley, 2002). Appendix A includes a listing of the 29 scales and a description of each.

The administration of the CPI 260 assessment tool took place online. Each research participant received login credentials to access the assessment tool and submitted responses to 260 true–false survey questions. The tool then automatically correlated participant responses and calculated values for each of the 29 scales. The study involved comparing reported values for the Leadership scale with the mean scale value established by the CCL for the executive norm group listed in Appendix B.

The Leadership scale is a correlated composite of the Dominance, Capacity for Status, Sociability, Social Presence, Self-Acceptance, Independence, and Empathy folk scales (Gough & Bradley, 2005). Although the CPI 260 assessment tool provides values for all 29 scales using the CPI 260 assessment tool, the focus of this research study was only on the values reported for the Leadership scale. The CPI 260 Leadership scale is normalized for both a standard population and a population of executives and managers (Gough & Bradley, 2005). The mean leadership scale value for the standard norm group is 50, with a midrange low score of 45 and a midrange high score of 55. The mean leadership scale value for the executive norm group is 62, with a midrange low score of 57 and a midrange high score of 67 (see Appendix C).

The CPI 260 assessment tool is a reliable, accurate, and effective tool in evaluating leadership abilities (Gough & Bradley, 2005; Manoogian, 2006). Years of quantitative and qualitative empirical testing, as well as test–retest correlations to assess its stability over time, have strengthened the reliability of the CPI assessment tools (Gough & Bradley, 2005). Comparison of the CPI assessment to other personality and psychological assessment tools, such as the Minnesota Multiphasic Personality Inventory, the Personality Assessment Inventory, the Wonderlic Personality Test, and the Inwald Personality Inventory, also demonstrated convergent validity (Dantzker, 2011). Other research studies have measured the intercorrelation coefficient between CPI and other assessment tools as high as $r = .40$ (Iliescu, Ilie, Ispas, & Ion, 2013).

The seven folk scales that comprise the Leadership scale have some of the highest internal consistency coefficients of the 20 folk scales, as indicated in Table 1. These

coefficients, ranging from .60 to .86, demonstrate the reliability of the CPI 260 assessment tool.

Table 1

Internal Consistency Coefficients for CPI Scales for U.S. Normal Sample

Scale	Men (<i>n</i> = 3,000)	Women (<i>n</i> = 3,000)
Dominance	.86	.86
Capacity for Status	.73	.76
Sociability	.76	.78
Social Presence	.62	.67
Self-acceptance	.68	.69
Independence	.74	.75
Empathy	.58	.60
Leadership Composite	.84	.85

The CPP developed the scales of the CPI 260 instrument empirically, based on both qualitative and quantitative research (Gough & Bradley, 2005). The scales use multiple correlations with defined personality traits and individual characteristics of human behavior (Gough & Bradley, 2005). The use of multiple correlations ensures consistent validity, even during the modification of scales. This open architecture approach to developing the scales and the associated correlations has made the CPI 260 one of the most reliable assessment tools for measuring and evaluating personality (Megargee, 2009).

Standards for assessment validation require evidence of internal structure validity and evidence of relationships with other variables (Cook, Zendejas, Hamstra, Hatala, & Brydges, 2014). Table 2 shows an internal validity study of the CPI 260 tool that involved 918 leaders employed as managers and executives in the United States, Canada,

and Australia demonstrated accepted congruence coefficients ($\alpha > .90$) between three of the four examined factors (Schaubhut et al., 2007).

Table 2

Coefficients of Congruence for CPI 260 Factors in Three Samples

	Factor 1	Factor 2	Factor 3	Factor 4
	U.S. factor 1	U.S. factor 2	U.S. factor 3	U.S. factor 4
Canada factor 1	.99			
Canada factor 2	.29	.98		
Canada factor 3	.38	-.12	.87	
Canada factor 4	.06	.37	.17	.80
	U.S. factor 1	U.S. factor 2	U.S. factor 3	U.S. factor 4
Australia factor 1	.99			
Australia factor 1	.24	.98		
Australia factor 1	.43	.15	.96	
Australia factor 1	.12	.50	.22	.73
	Canada factor 1	Canada factor 2	Canada factor 3	Canada factor 4
Australia factor 1	.99			
Australia factor 1	.24	.99		
Australia factor 1	.50	.32	.95	
Australia factor 1	.11	.49	.01	.91
	Average factor 1	Average factor 2	Average factor 3	Average factor 4
	.99	.98	.93	.81

Internal consistency coefficients for the Leadership scale for normalized population samples in the United States and the United Kingdom ranged from .84 to .85 consistently, which further demonstrated the stability, reliability, and accuracy of the assessment tool for measuring leadership traits in samples. I did not include survey submissions identified by the assessment tool as resembling an attempt to depict oneself as being overly positive (false-good), overly negative (false-bad), or unfocused and random as valid research data, as this would have compromised the validity of the study.

Data Collection Technique

Each participant completed the online CPI 260 survey by logging into the Skills 1 website using credentials I provided. The use of Internet-based research tools allows participants to contribute asynchronously as opposed to requiring them to comply with a rigid timeline for participation (Wilkerson, Lantaffi, Grey, Bockting, & Rosser, 2014). Using an Internet-based research tool also reduces the probability of errors from transcribing data between storage mediums (Moylan, Derr, & Lindhorst, 2015). Internet-based tools also provide researchers with immediate access to research data, which allows them to conduct data analysis sooner than with other data collection techniques (Borgman, 2012). The asynchronous nature of the participation, however, also allows participants the opportunity to misrepresent themselves and to submit responses that are ambiguous or incomplete (Hunter, 2012). It is important to use a tested and tried research tool to improve the reliability, validity, and accuracy of research responses.

I consolidated the survey results in a data file using the SPSS software application for all statistical analysis and for generating statistical tables and figures. I acquired firsthand experience using the instrument during the CPI 260 training and certification program by completing the CPI 260 assessment tool myself. This experience provided a deeper understanding of how to administer the tool and how to use the tool for research purposes.

Data Organization Technique

All survey data will remain in an SPSS usable data file stored on an external digital media device and secured in a lockable container for a minimum of 5 years before

permanently destruction takes place. I maintained a log of all participants to track completion of the online assessment tool and receipt of the resulting CPI 260 Coaching Report for Leaders. All communications with the participants remained confidential, and third parties did not have access to these records. All written notes generated from contact with participants will remain secured along with the research data, and I will permanently destroy them when there is no further need to generate research reports.

Data Analysis

The study involved collecting research data using the online CPI 260 assessment tool. Researchers use responses to 260 true–false survey questions in the CPI 260 assessment tool to generate scale values or scores for 20 folk scales. The CPI 260 assessment tool automatically correlates seven of the folk scales to generate a value for a special purpose scale to measure leadership competence. I calculated the mean scale value of the Leadership scale from all assessment responses using the SPSS statistics software application.

A two-tailed, one-sample t test met the need of the study for comparing the mean leadership scale value to the test value of 62, which represented the mean value of the Leadership scale among the executive norm group who completed the CPI 260 assessment as part of the CCL executive leadership development program. The lowest score within the executive norm group measured by CCL on the leadership scale was 57, and the highest was 67.

Although hierarchical level modeling is a commonly used model in educational settings, especially when examining confounding variables embedded within survey

responses, I did not examine shared variance related to hierarchical-based factors in this research study (Woltman et al., 2012). The CPP normalizes scale measurements within the CPI 260 assessment tool to a broad population, which provided an accurate and reliable aggregated means of measuring folk scales (Gough & Bradley, 2005). The hierarchical structure and geographical separation of U.S. school districts did not influence the overarching research question of this study: Is the mean leadership scale value for the sample of K-12 school leaders equal to the CCL executive-norm-group mean leadership scale value of 62, as measured by the CPI 260 assessment?

The hypotheses tested in this research study were:

H_0 : The mean leadership scale value for K-12 school leaders is equal to 62.

H_a : The mean leadership scale value for K-12 school leaders is not equal to 62.

The p value as reported by the one-sample t test determined the significance of the study. One-sample statistics and one-sample test data appear in tables generated from the SPSS software application. The SPSS software application also provided normative, descriptive, and distributive data for the sample.

Validity

A comparison between the CPI 260 assessment and the multiple CPP Benchmarks for Managers values measured by the CCL revealed bivariate correlations that were large enough to declare concurrent validity (CPP, 2002). Gough and Bradley (2002) discovered a majority of significant correlations between the CPI 260 scales and Benchmark Benchmarks for Managers self-assessment results. The Benchmarks for Managers results indicate a strong similarity between the way others see particular leaders, as measured

using the CPI 260, and the way leaders see themselves, as measured using the Benchmarks for Managers 360-degree self-assessment.

The strong correlations between the CPI 260 assessment and the Benchmarks for Managers measurements indicated a strong external validity for the CPI 260 scale measurements. Continuous follow-up comparisons and independent external comparisons with other measurement tools are necessary to reduce the threats to external validation (McCrae, 2014). The lack of research using CPI 260 as a tool for measuring leadership skills in educational professionals increases the risk of the CPI 260 losing acceptance as a valid assessment tool.

Transition and Summary

This section included detailed information concerning my role as the researcher, demographic information about the sample of participants, reasoning for the selected research method and design model, and information concerning the reliability and validity of the selected quantitative data collection tool, which was the CPI 260 assessment. Using the CPI 260 assessment provides a solid foundation for conducting quantitative data collection and a comparative analysis of measured leadership scales with expected observations in successful leaders. The selection of participants from the sample was methodical and ensured the research results would have a more meaningful impact on promoting social change and on identifying potential for improvements in the selection and development of K-12 educational leaders. The leadership competencies of K-12 educational leaders play an important role in the design, development, and delivery

of quality educational programs aimed at preparing high school graduates to add increased value to the business world.

The review of professional literature in Section 1 demonstrated a strong correlation between the leadership competencies of educational leaders and the ability of high school graduates to add value to the business world. The successful integration of high school graduates into a business environment or onto an institution of higher education is dependent on the leadership competencies of educational leaders. Educational leaders have responsibilities not just to students, but also to multiple internal and external stakeholders. Failure to fulfill these responsibilities places a heavy burden on society and the business world and has the potential of affecting global commerce.

Section 3 contains the results of the data collection and analysis efforts, as well as a discussion on the potential for increased social change. The section also included recommendations for opposite actions and future research, along with a summary of findings. This research study carries the potential to change the before, during, and after actions of selecting and developing educational leaders to ensure the business world and institutions of higher learning have the highest quality U.S. high school graduates. Added awareness of the leadership competencies of educational leaders and improvements in selecting and developing educational leaders may potentially relieve some of the negative burdens on society and help to promote more efficient and sustainable global business practices and operations.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this quantitative, nonexperimental, comparative study was to examine the difference between a sample mean leadership scale test variable and an executive norm group mean leadership scale test value of 62. The results of a one-sample *t* test indicated that a significant difference between the test variable and the test value does not exist. The null hypothesis that the mean leadership scale value for K-12 school leaders was equal to 62 was not rejected.

Presentation of the Findings

The CPI 260 Leadership scale values for 21 volunteer participants were collected between April 2015 and September 2016 using the online CPI 260 assessment. The fake-good indicator for one assessment was marked positive, indicating that the participant potentially responded in a manner to influence the way their personality traits would appear on the results. The statistical analysis did not include the leadership scale value associated with the fake-good flagged assessment, which brought the number of assessments used for data analysis to 20 (five men and 15 women).

Descriptive Statistics

Table 3 depicts the descriptive statistics for the baseline variables. The lowest CPI 260 Leadership scale value measured in the sample was 49, and the highest was 69. The normalized CPI 260 Leadership scale value established by CPP for the general population is 50 (Gough & Bradley, 2005). Eighteen of the 20 participants (90%) scored higher than

the general population mean score of 50 and the remaining two participants (10%) each scored 49.

Table 3

Means, Standard Deviations, Frequencies, and Percentages for Study Variables (N = 20)

Variable	Frequency	%
Gender		
Male	5	25.0
Female	15	75.0
Leadership		
	<i>M</i>	<i>SD</i>
Male	66.33	2.164
Female	60.51	7.566

The mean CPI 260 Leadership scale value for the executive norm group is 62, with a midrange low score of 57 and a midrange high score of 67 (see Appendix C). Fourteen of the 20 participants (70%) scored higher than the executive norm group mean, with scores ranging from 63 to 69. Seven participants (35%) scored higher than the executive norm group midrange high score of 67, with scores of 68 and 69. A 5-point gap between the 54 and 59 range of leadership scale scores existed, which generated a negatively skewed histogram with no outliers (see Figure 1).

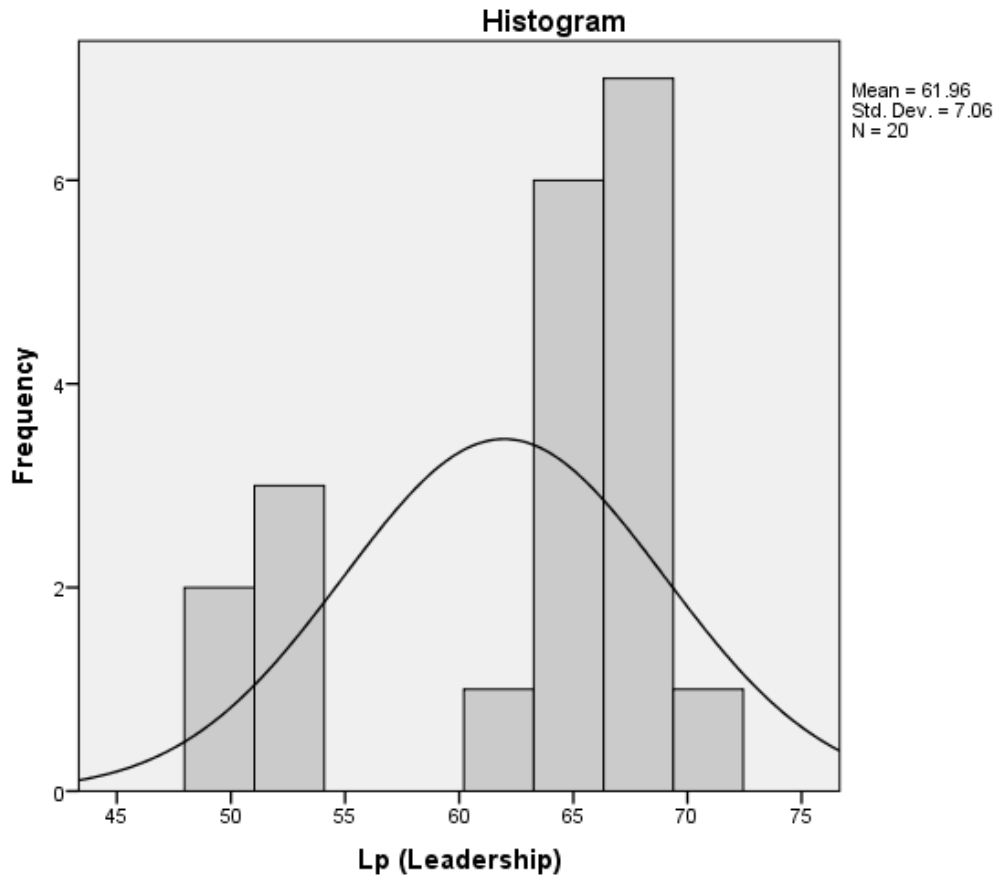


Figure 1. Histogram depicting leadership scores.

Inferential Statistics

A one-sample *t* test, $\alpha = .05$, was used to compare the sample mean CPI 260 Leadership scale test variable against the test value of 62. The analysis involved evaluating the assumptions of normality and concluding that the data deviated from a normal distribution with negative skewness but did not include outliers. The null hypothesis was that the mean leadership scale value for K-12 school leaders was not significantly different from the CCL executive norm group mean of 62. The alternative hypothesis was that the sample mean leadership scale value for K-12 school leaders was significantly different from the CCL executive group mean of 62. The results were

nonsignificant, $t(19) = -.022$, $p = .982$, 95% CI [-3.34, 3.27]. I accepted the null hypothesis that the mean leadership scale value for K-12 school leaders of 61.96 ($SD = 7.06$) is equal to the executive group mean value of 62 and rejected the alternative hypothesis that the sample mean value was not significantly different from the executive group mean. The small effect size ($d = -.005$) indicates a very low probability that a Type II error occurred (Lakens, 2013).

Data Distribution

The lowest leadership scale value measured in the sample was 49, and the highest was 69. The normalized CPI 260 Leadership scale value for the general population is 50 (Gough & Bradley, 2005). Eighteen of the 20 participants (90%) scored higher than the general population mean value of 50 and the remaining two participants (10%) each scored 49.

There were no outliers present in the skewed distribution which is typical for unevenly distributed data (Wilcox, 2014). The absence of outliers in the distribution of a small skewed sample is a distribution anomaly, and the distribution is acceptable as being approximately normal (Cox et al., 2014). A box plot figure would also demonstrate the skewed distribution and absence of outliers, but a box plot uses a median value, as opposed to the mean, and does not intuitively display the distribution of values well (Wilcox, 2014). Although the data distribution for this study is uneven, the absence of outliers infers that the distribution is still considered to be normal, and there is no cause to criticize the distribution as being unacceptable for statistical purposes.

Applications to Professional Practice

The result of this research provided evidence to support the inference that there is not a statistically significant difference between the business-related leadership traits of K-12 educational leaders and those of business professionals. Seventy percent of the sample of K-12 professionals scored higher on the CPI 260 leadership scale than the mean score obtained for the executive norm group. These results indicated that some K-12 professionals could benefit more than others from increased exposure to business-related education, experience, and professional development initiatives. The results further indicated that measuring leadership traits can be an effective means of screening individual candidates for leadership positions or for collecting useful information to aid in developing focused leadership development programs.

Leadership, being a complex phenomenon of human behavioral science, is one of the character trait domains fully supported by the concept of association with dominant general factors as opposed to simple general factors (Ree, Carretta, & Teachout, 2015). A generalized approach toward measuring and assessing leadership competencies adds credibility to using leadership assessment tools for a preplacement evaluation of potential candidates (Desai et al., 2015). Such an approach can reduce or eliminate the risks associated with potentially selecting a candidate who does not possess all the desired leadership characteristics or can serve as a benchmark toward establishing a development plan to improve a candidate's leadership potential (Kulas, 2013).

This research revealed a wide range of leadership scale scores among K-12 professionals working in positions ranging from supervisory to top executive level. This

wide range illustrates the diversity of the global workforce and highlights existing differences in leadership skills and leadership potential among current K-12 educational leaders and leadership candidates. This difference in leadership characteristics further strengthens the belief that human resources professionals or hiring managers should assess the leadership competencies of individual candidates before selecting them to fill a leadership position within the organization, as opposed to taking for granted that experience provides the leadership skills the organization needs, as suggested by Casey et al. (2013).

Implications for Social Change

Educational stakeholders (e.g., students, parents, teachers, politicians, business leaders, and other members of society) expect school leaders to sustain appropriate business practices and ensure high school graduates can successfully enter the business world or transition to institutions of higher learning after graduation (Edmunds et al., 2012). The ability of K-12 educational leaders to fulfill the roles and responsibilities as educational leaders partially depends on the possession of business-related leadership competencies (Onorato, 2013). The absence of, or failure to implement effectively, business-related competencies can have a negative impact on students, families, the economy, and the success of a graduating high school body to integrate into society as young adults (McFadden, 2013). Leaders of educational institutions, therefore, have a responsibility to ensure educational leaders are best qualified and able to fulfill their duties and responsibilities, as well as properly address stakeholder concerns (Donnell & Gettinger, 2015).

Thirty percent of the participants scored lower than the executive norm group mean score of 62 on the CPI 260 leadership scale, which indicated a minor gap in the business-related leadership education, development, or experience within the sample of K-12 educational leaders. Although minor, this gap can still influence how efficiently and effectively an educational leader implements institutional plans and policies and to what degree these leaders meet institutional goals and objectives (Desai et al., 2015).

Educational leaders and human resources development specialists can use the same, or similar, processes used in this research to assess the business-related leadership competencies of existing staff members or potential leadership candidates. The assessment of these competencies can serve as a benchmark toward developing individual or group-level professional development programs aimed at improving the business-related leadership competencies of educational leaders. Improving these competencies can empower educational leaders to understand the social responsibilities of educational institutions better and to empower themselves to meet stakeholder demands and expectations more effectively (Allen et al., 2015). The improvement of these competencies could also improve the efficiency and sustainability of business operations in schools and improve the educational foundation of the next-generation workforce entering the global business community (Onorato, 2013).

Educational leaders and business professionals collaborate on many levels toward a common goal of developing the next-generation workforce (Gross et al., 2015). Many times this is through joint or cooperative programs aimed at improving the science, technology, engineering, and mathematics education and knowledge of K-12 students at

various levels (Sondergeld et al., 2016). Evaluating the business-related leadership potential of an educational leader can provide more credibility for educational leaders in the eyes of the business executives who believe they need to serve as mentors and coaches for the educational leaders (Casey et al., 2013).

Addressing the similarities between educational leadership and business leadership can further improve the relationship between educational leaders, business leaders, members of the community, and other stakeholders. Stakeholders need to collaborate at multiple levels and through multiple means of communication, as well as equally contribute to cooperative initiatives toward meeting the social responsibilities of educational institutions (Carter & Greer, 2013; McFadden, 2013). The results might also further motivate stakeholders to increase their involvement in educational reform initiatives and to ensure educational leaders possess the business-related competencies needed to fulfill their roles and responsibilities (Padro, 2012).

Recommendations for Action

Educational leadership is often primarily associated with institutional leadership approaches and models, but many scholars also associate managerial, transformational, distributed, and shared leadership models with educational leadership roles (Bush & Glover, 2014). Managerial, transformational, distributed, and shared leadership models are often primarily associated with business-related leadership roles but are becoming more popular in other nonbusiness-related leadership contexts as well (Deichmann & Stam, 2015). The continuous focus on alternative leadership types, models, and

approaches across various occupational schemes adds to the study and further understanding of the leadership phenomenon (Smith et al., 2016).

As the roles and responsibilities of school leaders continue to evolve, they become more complex and no longer fit into traditional understandings of the required leadership competencies of educational leaders (McCarthy, 2015). The need for educational leaders to possess interdisciplinary leadership knowledge, skills, and characteristics continues to evolve and becomes increasingly critical for the successful implementation of education programs and fostering student success (Leo & Wickenberg, 2013; Watson, 2013). The results of this study may be significant to researchers, practitioners, scholars, corporate business leaders, educational leaders, and other stakeholders directly or indirectly affected by the business-related leadership competencies of educational leaders, as they participate in education reform initiatives. All these stakeholders play an important role in defining the leadership requirements for educational leaders and in promoting the continued improvement of educational leader professional development (Desai et al., 2015; Edmunds et al., 2012; Onorato, 2013).

Throughout the course of preparing and completing this research study, I had contacted some of the referenced authors through email to exchange ideas and thoughts. Those authors will receive a copy of the completed study as a means to continue the dialogue on the important, but sometimes controversial, topic of business leadership in educational institutions. Opportunities to publish or co-publish the findings may result from this dialogue. I plan to submit elements of this research for publishing in educational, leadership, and business-community related forums and blogs. The intent is

to add to existing discussions and offer alternative perspectives on multidisciplinary leadership research and on how all stakeholders can benefit from the discussion.

Recommendations for Further Research

This research study involved a small sample recruited from across a large geographical area. Although the study strongly supported the concept of random sampling and avoided sampling bias, it is difficult to draw a highly accurate inference for such a large target population and geographical region. Similar research involving larger sample sizes from more focused geographical regions could provide interested stakeholders with more specific inferences about localized leadership development activities. Such research could be even more meaningful for district- or state-level educational leaders, human resources development professionals, and other stakeholders.

Because leadership characteristics are a composite of a person's experience, education, and training, additional research could further determine if K-12 professionals working in specific positions of responsibility require focused leadership development education or training. Such research could also assist human resources development professionals in developing more focused professional development curriculums aimed at specific employees serving in specific employment levels. Focused professional development could further ensure the hierarchical-based factors found in educational settings do not violate independence of error, independence of observation, and Type I error avoidance principles (Woltman et al., 2012).

Many research studies focusing on leadership competencies use multiple assessment tools as opposed to a single point of collecting data (Mabey, 2013; Paris &

Peachey, 2013). Using multiple tools allows researchers to look for similarities and correlations among the data, which could further validate the accuracy of the findings. A complex approach to using multiple collection tools and searching for correlations would have required additional resources and was not within the scope of this research project. Such an approach could add value to the business practice of prescreening leadership candidates to ensure candidates are a good fit or to assist human resource development professionals further in developing focused professional development curriculums.

Reflections

I enrolled into the Walden University Doctor of Business Administration (DBA) program with the goal of focusing my research on business leadership. After extensive brainstorming, as well as questioning colleagues and co-workers, my focus oriented toward the business-related aspect of educational leadership. Had I known how challenging the program would have been to find adequate literary references and recruit sufficient volunteer participants, the focus of this study would have been on a different aspect of leadership. The information discovered, however, made the journey invaluable.

The results of the data analysis and the discovery that there was not a significant difference between the mean leadership scale values of the two populations were surprising. The thorough review of literature associated with this study revealed that as many as 43% of K-12 educational leaders lack business-related competencies. This study revealed that 30% of the sample possibly lacked business-related competencies in comparison with the executive norm group of business executives. No other study involved comparing these two populations, which made this study unique in nature, but

not unique in theory and principle. Based on the vast size K-12 leader population in the United States, no one study can proclaim an inference to the business-related competencies of all K-12 educational leaders. The results of this study are a general inference and warrant further research to provide more specific inferences toward the business-related leadership competencies of K-12 educational leaders and to contribute further to the improvement of business practices.

Conclusion

Leadership is a broad and complex topic within the realm of human behavioral psychology. The characteristics make leadership a difficult topic for conducting focused research. The subject of business-related leadership competencies of educational leaders is focused but also controversial. Most researchers who focus on either educational or business leadership would never consider comparing the two. This research study demonstrated that biased opinions about the business-related leadership competencies of educational leaders exist, but are not necessarily accurate.

Although the study included a decisive inference about the sample, the research also indicated that there are still areas where the business-related leadership competencies of educational leaders could improve. Each research participant received an individual and confidential CPI 260 Coaching Report for Leaders that highlighted their leadership strengths and areas for potential improvement. For these 20 professionals, that feedback was probably the most valuable aspect of this study, because they now know where they can focus their efforts toward improving specific leadership competencies on an individual level.

References

- Agic, H. (2012). The effect of trained principals on the professional (self) development of employees. *Management*, 7, 55–71. Retrieved from <http://www.fm-kp.si/zalozba/ISSN/1854-4231.htm>
- Aktas, M., Gelfand, M. J., & Hanges, P. J. (2016). Cultural tightness–looseness and perceptions of effective leadership. *Journal of Cross-Cultural Psychology*, 47, 294–309. <http://dx.doi.org/10.1177/0022022115606802>
- Allen, N., Grigsby, B., & Peters, M. L. (2015). Does leadership matter? Examining the relationship among transformational leadership, school climate, and student achievement. *International Journal of Educational Leadership Preparation*, 10, 1–22. Retrieved from <http://www.ncpeapublications.org/>
- Alliance for Excellent Education. (2011, November). *The high cost of high school dropouts: What the nation pays for inadequate high schools* (Issue Brief). Washington, DC: Author.
- Allwood, C. A. (2012). The distinction between qualitative and quantitative research methods is problematic. *Quality and Quantity*, 46, 1417–1429. <http://dx.doi.org/10.1007/s11135-011-9455-8>
- Anderson, G., & Donchik, L. M. (2016). Privatizing schooling and policy making: The American legislative exchange council and new political and discursive strategies of education governance. *Educational Policy*, 30, 322–364. <http://dx.doi.org/10.1177/0895904814528794>

- Anderson, T., & Shattuck, J. (2012). Design-based research: A decade of progress in education research? *Educational Researcher*, *41*, 16–25.
<http://dx.doi.org/10.3102/0013189X11428813>
- Antonakis, J., Day, D. V., & Schyns, B. (2012). Leadership and individual differences: At the cusp of a renaissance. *Leadership Quarterly*, *23*, 643–650.
<http://dx.doi.org/10.1016/j.leaqua.2012.05.002>
- Antonakis, J., & House, R. J. (2015). Instrumental leadership: Measurement and extension of transformational–transactional leadership theory. *Leadership Quarterly*, *25*, 746–771. <http://dx.doi.org/10.1016/j.leaqua.2014.04.005>
- Aquilonius, B. C., & Brenner, M. E. (2015). Students' reasoning about p-values. *Statistics Education Research Journal*, *14*(2), 7–27. Retrieved from <http://iase-web.org/Publications.php?p=SERJ>
- Babaei, A., Chaiichi-Mellatshahi, M., & Najafi, M. (2012). Intuition and its effects on mathematical learning. *Indian Journal of Science and Technology*, *5*, 3069–3072. Retrieved from <http://www.indjst.org>
- Bandur, A. (2012). School-based management developments and partnership: Evidence from Indonesia. *International Journal of Educational Development*, *32*, 316–328.
<http://dx.doi.org/10.1016/j.ijedudev.2011.05.007>
- Barber, W. (2015). Developing high performance teachers in 21 century schools: A case study of beliefs and behaviours of master teachers. *International Journal for Cross-Disciplinary Subjects in Education*, *5*, 2538–2546.
<http://dx.doi.org/10.20533/ijcdse.2042.6364.2015.0345>

- Barza, L. (2013). School-business partnerships: The case of the UAE. *Journal of Strategy and Management*, 6, 180–189. <http://dx.doi.org/10.1108/17554251311322431>
- Benedek, A., Takács, I., & Takács-György, K. (2014). Examining corporate social responsibility from a stakeholder viewpoint based on an empirical research. *Zarządzanie Publiczne (Public Management)*, 3, 309–319. <http://dx.doi.org/10.4467/20843968ZP.14.026.2770>
- Bergman, J. Z., Rentsch, J. R., Small, E. E., Davenport, S. W., & Bergman, S. M. (2012). The shared leadership process in decision-making teams. *Journal of Social Psychology*, 152, 17–42. <http://dx.doi.org/10.1080/00224545.2010.538763>
- Biemann, T., Cole, M. S., & Voelpel, S. (2012). Within-group agreement: On the use (and misuse) of rWG and rWG(J) in leadership research and some best practice guidelines. *Leadership Quarterly*, 23, 66–80. <http://dx.doi.org/10.1016/j.leaqua.2011.11.006>
- Birkeland, S., & Feiman-Nemser, S. (2012). Helping school leaders help new teachers: A tool for transforming school-based induction. *New Educator*, 8, 109–138. <http://dx.doi.org/10.1080/1547688X.2012.670567>
- Blackmore, C. (2016). Towards a pedagogical framework for global citizenship education. *International Journal of Development Education and Global Learning*, 8, 39-56. <http://dx.doi.org/10.18546/IJDEGL.8.1.04>
- Block, B. A. (2014). Leadership: A supercomplex phenomenon. *Quest*, 66, 233–246. <http://dx.doi.org/10.1080/00336297.2013.879535>

- Boer, D. P., Starkey, N. J., & Hodgetts, A. M. (2010). The California Psychological Inventory—434- and 260-item editions. In G. Boye, G. Matthes, & D. Saklofske (Eds.), *The SAGE handbook of personality theory and assessment: Volume 2—Personality measurement and testing* (pp. 97–112).
<http://dx.doi.org/10.4135/9781849200479.n5>
- Borgman, C. L. (2012). The conundrum of sharing research data. *Journal of the American Society for Information Science and Technology*, *63*, 1059–1078.
<http://dx.doi.org/10.1002/asi.22634>
- Braddy, P. W., Gooty, J., Fleenor, J. W., & Yammarino, F. J. (2014). Leader behaviors and career derailment potential: A multi-analytic method examination of rating source and self–other agreement. *Leadership Quarterly*, *25*, 373–390.
<http://dx.doi.org/10.1016/j.leaqua.2013.10.001>
- Brammer, S., Jackson, G., & Matten, D. (2012). Corporate social responsibility and institutional theory: New perspectives on private governance. *Socio-Economic Review*, *10*, 3–28. <http://dx.doi.org/10.1093/ser/mwr030>
- Branch, G. F., Hanushek, E. A., & Rivkin, S. G. (2013). School leaders matter. *Education Next*, *13*, 62–69. Retrieved from <http://educationnext.org/journal/>
- Brewster, P. W., Melrose, R. J., Marquine, M. J., Johnson, J. K., Napoles, A., MacKay-Brandt, A., . . . Mungas, D. (2014). Life experience and demographic influences on cognitive function in older adults. *Neuropsychology*, *28*, 846–858.
<http://dx.doi.org/10.1037/neu0000098>

- Brooke, W., & Chiu, J. (2015). Professional development and teacher change: The missing leadership link. *Journal of Science Teacher Education*, 26, 121–137.
<http://dx.doi.org/10.1007/s10972-014-9411-2>
- Brown, S. L. (2012). Is the high school principal the single agent of dropout prevention as suggested by the state board of education? *National Forum of Educational Administration and Supervision Journal*, 29(4), 1–8. Retrieved from
<http://www.nationalforum.com/Journals/NFEASJ/NFEASJ.htm>
- Browne-Ferrigno, T. (2013). Mandated preparation program redesign Kentucky case. *Journal of Research on Leadership Education*, 8, 168–190.
<http://dx.doi.org/10.1177/1942775113490934>
- Burke, W., Marx, G. E., & Lowerstein, E. (2012). Leading, leadership, and learning: Exploring new contexts for leadership development in emerging school environments. *Planning & Changing*, 43, 113–126. Retrieved from
<http://education.illinoisstate.edu/planning/>
- Burnecki, K., Wylomanska, A., & Chechkin, A. (2015). Discriminating between light- and heavy-tailed distributions with limit theorem. *PLoS ONE*, 10(12), 1–23.
<http://dx.doi.org/10.1371/journal.pone.0145604>
- Bush, T. (2014). Instructional and transformational leadership: Alternative and complementary models? *Educational Management Administration Leadership*, 42, 443–444. <http://dx.doi.org/10.1177/1741143214526830>

- Bush, T., & Glover, D. (2014). School leadership models: What do we know? *School Leadership & Management, 34*, 553–571.
<http://dx.doi.org/10.1080/13632434.2014.928680>
- Capper, C. A., & Young, M. D. (2014). Ironies and limitations of educational leadership for social justice: A call to social justice educators. *Theory Into Practice, 53*, 158–164. <http://dx.doi.org/10.1080/00405841.2014.885814>
- Carter, E. W., Brock, M. E., Bottema-Beutel, K., Bartholomew, A., Boehm, T. L., & Cease-Cook, J. (2013). Methodological trends in secondary education and transition research: Looking backward and moving. *Career Development and Transition for Exceptional Individuals, 36*, 15–24.
<http://dx.doi.org/10.1177/2165143413475659>
- Carter, S. M., & Greer, C. R. (2013). Strategic leadership: Values, styles, and organizational performance. *Journal of Leadership & Organizational Studies, 20*, 375–393. <http://dx.doi.org/10.1177/1548051812471724>
- Casey, P. J., Starrett, T. M., & Dunlap, K. (2013). Residual effects of a professional development project for aspiring school leaders. *Academy of Educational Leadership Journal, 17*(2), 81–93. Retrieved from
<http://www.alliedacademies.org/academy-of-educational-leadership-journal/>
- Ceballos, P. L., & Sheely-Moore, A. I. (2015). Addressing the needs of low-income school-age children: A teaching model. *Journal of Counselor Leadership and Advocacy, 2*, 131–143. <http://dx.doi.org/10.1080/2326716X.2015.1054076>

- Coburn, C. E., Hill, H. C., & Spillane, J. P. (2016). Alignment and accountability in policy design and implementation: The common core state standards and implementation research. *Educational Researcher*, *45*, 243–251.
<http://dx.doi.org/10.3102/0013189X16651080>
- Colbert, A. E., Judge, T. A., Choi, D., & Wang, G. (2012). Assessing the trait theory of leadership using self and observer ratings of personality: The mediating role of contributions to group success. *Leadership Quarterly*, *23*, 670–685.
<http://dx.doi.org/10.1016/j.leaqua.2012.03.004>
- Cook, D. A., Zendejas, B., Hamstra, S. J., Hatala, R., & Brydges, R. (2014). What counts as validity evidence? Examples and prevalence in a systematic review of simulation-based assessment. *Advances in Health Sciences Education*, *19*, 233–250. <http://dx.doi.org/10.1007/s10459-013-9458-4>
- Cox, B. E., McIntosh, K., Reason, R. D., & Terenzini, P. T. (2014). Working with missing data in higher education research: A primer and real-world example. *Review of Higher Education*, *37*, 377–402.
<http://dx.doi.org/10.1353/rhe.2014.0026>
- CPP, Inc. (2002). *Comparing the CPI 260 instrument to the benchmarks scales: An initial validity study* (Tech Report No. 2002-4r). Retrieved from https://www.cpp.com/Pdfs/Comparing_CPI260_to_benchmarks_scales.pdf
- Crawford, J. R., & Garthwaite, P. H. (2012). Single-case research in neuropsychology: A comparison of five forms of *t*-test for comparing a case to controls. *Cortex*, *48*, 1009–1016. <http://dx.doi.org/10.1016/j.cortex.2011.06.021>

- Cumberland, D. M., Herd, A., Alagaraja, M., & Kerrick, S. A. (2016). Assessment and development of global leadership competencies in the workplace: A review of literature. *Advances in Developing Human Resources, 18*, 301–317.
<http://dx.doi.org/10.1177/1523422316645883>
- Daniel, M., & Auriac, E. (2011). Philosophy, critical thinking and philosophy for children. *Educational Philosophy and Theory, 43*, 415–435.
<http://dx.doi.org/10.1111/j.1469-5812.2008.00483.x>
- Dantzker, M. L. (2011). Psychological preemployment screening for police candidates: Seeking consistency if not standardization. *Professional Psychology: Research and Practice, 42*, 276–283. <http://dx.doi.org/10.1037/a0023736>
- Day, D. V., Fleenor, J. W., Atwater, L. E., Sturm, R. E., & McKee, R. A. (2014). Advances in leader and leadership development: A review of 25 years of research and theory. *Leadership Quarterly, 25*, 63–82.
<http://dx.doi.org/10.1016/j.leaqua.2013.11.004>
- Deichmann, D., & Stam, D. (2015). Leveraging transformational and transactional leadership to cultivate the generation of organization-focused ideas. *Leadership Quarterly, 26*, 204–219. <http://dx.doi.org/10.1016/j.leaqua.2014.10.004>
- DeRue, D. S., Nahrgang, J. D., Hollenbeck, J. R., & Workman, K. (2012). A quasi-experimental study of after-event reviews and leadership development. *Journal of Applied Psychology, 97*, 997–1015. <http://dx.doi.org/10.1037/a0028244>

- Desai, M. N., Lockett, A., & Paton, D. (2015). The effects of leader succession and prior leader experience on post succession organizational performance. *Human Resource Management, 55*, 967–984. <http://dx.doi.org/10.1002/hrm.21700>
- Destler, K. N., & Page, S. B. (2016). Moving toward mixed service delivery: The growth in schools run by non-governmental providers in ten cities. *International Public Management Journal*. Advance online publication. <http://dx.doi.org/10.1080/10967494.2016.1161686>
- De Winter, J. C. F. (2013). Using the Student's *t*-test with extremely small sample sizes. *Practical Assessment, Research & Evaluation, 18*, 1–12. Retrieved from <http://pareonline.net/>
- Diddams, M., & Chang, G. C. (2012). Only human: Exploring the nature of weakness in authentic leadership. *Leadership Quarterly, 23*, 593–603. <http://dx.doi.org/10.1016/j.leaqua.2011.12.010>
- Dillon, P. J., Back, R. M., & Manz, C. C. (2014). Authentic corporate social responsibility based on authentic empowerment: An exemplary business leadership case. *Journal of Values-based Leadership, 7*(1), 1–13. Retrieved from <http://scholar.valpo.edu/jvbl/>
- Dinh, J. E., Lord, R. G., Gardner, W. L., Meuser, J. D., Liden, R. C., & Hu, J. (2014). Leadership theory and research in the new millennium: Current theoretical trends and changing perspectives. *Leadership Quarterly, 25*, 36–62. <http://dx.doi.org/10.1016/j.leaqua.2013.11.005>

Dionne, S. D., Gupta, A., Sotak, K. L., Shirreffs, K. A., Serban, A., Hao, C, . . .

Yammarino, F. J. (2014). A 25-year perspective on levels of analysis in leadership research. *Leadership Quarterly*, 25, 6–35.

<http://dx.doi.org/10.1016/j.leaqua.2013.11.002>

Doerr, N. M. (2012). Do ‘global citizens’ need the parochial cultural other? Discourse of immersion in study abroad and learning-by-doing. *Compare: A Journal of Comparative and International Education*, 43, 224–243.

<http://dx.doi.org/10.1080/03057925.2012.701852>

Dole, S., Bloom, L., & Kowalske, K. (2016). Transforming pedagogy: Changing perspectives from teacher-centered to learner-centered. *Interdisciplinary Journal of Problem-based Learning*, 10, 45–58. <http://dx.doi.org/10.7771/1541-5015.1538>

Domina, T. (2014). An education in politics: The origins and evolution of No Child Left Behind. *Contemporary Sociology: A Journal of Reviews*, 43, 253–255.

<http://dx.doi.org/10.1177/009430611452241511>

Donnell, L. A., & Gettinger, M. (2015). Elementary school teachers' acceptability of school reform: Contribution of belief congruence, self-efficacy, and professional development. *Teaching and Teacher Education*, 51, 47–57.

<http://dx.doi.org/10.1016/j.tate.2015.06.003>

DuFour, R., & Mattos, M. (2013). How do principals really improve schools?

Educational Leadership, 70(7), 34–40. Retrieved from

<http://www.ascd.org/publications/educational-leadership.aspx>

- Edmunds, J. A., Bernstein, N., Unlu, L., Glennie, E., Willse, J., Smith, A., & Arshavsky, F. (2012). Expanding the start of college pipeline: Ninth-grade findings from an experimental study of the impact of the early college high school model. *Journal of Research on Educational Effectiveness, 5*, 136–159.
<http://dx.doi.org/10.1080/19345747.2012.656182>
- Engel, M., & Cannata, M. (2015). Localism and teacher labor markets: How geography and decision making may contribute to inequality. *Peabody Journal of Education, 90*, 84–92. <http://dx.doi.org/10.1080/0161956X.2015.988533>
- Erskine, J. L. (2014). It changes how teachers teach: How testing is corrupting our classrooms and student learning. *Multicultural Education, 21*, 38–40. Retrieved from <http://www.caddogap.com/>
- Finch, M. A. (2012). Precursors to policy innovation: How Tennessee entered Race to the Top. *Peabody Journal of Education, 87*, 576–592.
<http://dx.doi.org/10.1080/0161956X.2012.723499>
- Fox, J., Gong, T., & Attoh, P. (2015). The impact of principal as authentic leader on teacher trust in the K-12 educational context. *Journal of Leadership Studies, 8*(4), 6–18. <http://dx.doi.org/10.1002/jls.21341>
- Fruht, V. M., & Wray-Lake, L. (2013). The role of mentor type and timing in predicting educational attainment. *Journal of Youth and Adolescence, 42*, 1459–1472.
<http://dx.doi.org/10.1007/s10964-012-9817-0>

- Fryer, T. B. (2012). Languages for specific purposes business curriculum creation and implementation in the United States. *Modern Language Journal, 96*, 122–139.
<http://dx.doi.org/10.1111/j.1540-4781.2012.01300.x>
- Gaddis, B. H., & Foster, J. L. (2015). Meta-analysis of dark side personality characteristics and critical work behaviors among leaders across the globe: Findings and implications for leadership development and executive coaching. *Applied Psychology: An International Review, 64*, 25–54.
<http://dx.doi.org/10.1111/apps.12017>
- Geier, M. T. (2016). Leadership in extreme contexts: Transformational leadership, performance beyond expectations? *Journal of Leadership & Organizational Studies, 23*, 234–247. <http://dx.doi.org/10.1177/1548051815627359>
- Gentry, W. A., Leslie, J. B., Gilmore, D. C., Ellen, B. P., III, Ferris, G. R., & Treadway, D. C. (2013). Personality and political skill as distal and proximal predictors of leadership evaluations. *Career Development International, 18*, 569–588.
<http://dx.doi.org/10.1108/CDI-08-2013-0097>
- Germain, M. (2012). Traits and skills theories as the nexus between leadership and expertise: Reality or fallacy? *Performance Improvement, 51*(5), 32–39.
<http://dx.doi.org/10.1002/pfi.21265>
- Gilley, A., Gilley, J. W., Ambort-Clark, K. A., & Marion, D. (2014). Evidence of managerial malpractice: An empirical study. *Journal of Applied Management and Entrepreneurship, 19*, 24–42. <http://dx.doi.org/10.9774/gleaf.3709.2014.oc.00004>

- Goldring, E., Huff, J., Spilane, J. P., & Barnes, C. (2009). Measuring the learning-centered leadership expertise of school principals. *Leadership & Policy in Schools, 8*, 197–228. <http://dx.doi.org/10.1080/15700760902737170>
- Goddard, R., Goddard, Y., Kim, E. S., & Robert, M. (2015). A theoretical and empirical analysis of the roles of instructional leadership, teacher collaboration, and collective efficacy beliefs in support of student learning. *American Journal of Education, 121*, 501–530. <http://dx.doi.org/10.1086/681925>
- Gough, H. G. (1990). Testing for leadership with the California Psychological Inventory. In K. E. Clark & M. B. Clark (Eds.), *Measures of leadership* (pp. 355–379). West Orange, NJ: Leadership Library of America, Inc.
- Gough, H. G. (2000). The California Psychological Inventory. In C. E. Watkins & V. L. Campbell (Eds.), *Testing and assessment in counseling practice* (pp. 45–71). Mahwah, NJ: Lawrence Erlbaum.
- Gough, H. G., & Bradley, P. (2002). *CPI manual* (3rd ed.). Mountain View, CA: CCP, Inc.
- Gough, H. G., & Bradley, P. (2005). *CPI 260 manual*. Mountain View, CA: CCP, Inc.
- Grahek, M. S., Thompson, A. D., & Toliver, A. (2010). The character to lead: A closer look at character in leadership. *Consulting Psychology Journal: Practice and Research, 62*, 270–290. <http://dx.doi.org/10.1037/a0022385>
- Grant, A. M. (2012). Leading with meaning: Beneficiary contact, prosocial impact, and the performance effects of transformational leadership. *Academy of Management Journal, 55*, 458–476. <http://dx.doi.org/10.5465/amj.2010.0588>

- Grissom, J., Kalogrides, D., & Loeb, S. (2015). Using student test scores to measure principal performance. *Educational Evaluation and Policy Analysis, 37*, 3–28.
<http://dx.doi.org/10.3102/0162373714523831>
- Grissom, J., Loeb, S., & Master, B. (2013). Using student test scores to measure principal performance. *Educational Researcher, 42*, 433–444.
<http://dx.doi.org/10.3102/0162373714523831>
- Gross, J. M., Haines, S. J., Hill, C., Francis, G. L., Blue-Banning, M., & Turnbull, A. P. (2015). Strong school–community partnerships in inclusive schools are “part of the fabric of the school . . . We count on them.” *School Community Journal, 25*(2), 9–34. Retrieved from <http://www.schoolcommunitynetwork.org/SCJ.aspx>
- Guercini, S. (2014). New qualitative research methodologies in management. *Management Decision, 52*, 662–674. <http://dx.doi.org/10.1108/MD-11-2013-0592>
- Hack, L., Kenyon, A. J., & Wood, E. H. (2014). A critical corporate social responsibility (CSR) timeline: How should it be understood now. *International Journal of Management Cases, 16*(4), 46–55. Retrieved from <http://www.ijmc.org/ijmc/home.html>
- Hackmann, D. G. (2016). Considerations of administrative licensure, provider type, and leadership quality recommendations for research, policy, and practice. *Journal of Research on Leadership Education, 11*, 43–67.
<http://dx.doi.org/10.1177/1942775116641662>

- Hahn, R. (2013). ISO 26000 and the standardization of strategic management processes for sustainability and corporate social responsibility. *Business Strategy and the Environment*, 22, 442–455. <http://dx.doi.org/10.1002/bse.1751>
- Hairon, S., & Goh, J. W. P. (2015). Pursuing the elusive construct of distributed leadership: Is the search over? *Educational Management Administration & Leadership*, 43, 693–718. <http://dx.doi.org/10.1177/1741143214535745>
- Hakim, E. W., Moffat, M., Becker, E., Bell, K. A., Manal, T. J., Schmitt, L. A., & Ciolek, C. (2014). Application of educational theory and evidence in support of an integrated model of clinical education. *Journal of Physical Therapy Education*, 28, 13–21. Retrieved from <http://aptaeducation.org/members/jopte/index.cfm>
- Hallinger, P. (2013). A conceptual framework for systematic reviews of research in educational leadership and management. *Journal of Educational Administration*, 51, 126–149. <http://dx.doi.org/10.1108/09578231311304670>
- Hallinger, P. (2014). Reviewing reviews of research in educational leadership: An empirical assessment. *Educational Administration Quarterly*, 50, 539–576. <http://dx.doi.org/10.1177/0013161X13506594>
- Hambacher, E., & Thompson, W. C. (2015). Breaking the mold: Thinking beyond deficits. *Journal of Educational Controversy*, 9, 1–18. Retrieved from <http://cedar.wvu.edu/jec/>
- Hamstra, M. R., Van Yperen, N. W., Wisse, B., & Sassemberg, K. (2014). On the perceived effectiveness of transformational-transactional leadership: The role of

- encouraged strategies and followers' regulatory focus. *European Journal of Social Psychology*, 44, 643–656. <http://dx.doi.org/10.1002/ejsp.2027>
- Helms, W. S., Oliver, C., Webb, K. (2012). Antecedents of settlement on a new institutional practice: Negotiation of the ISO 26000 standard on social responsibility. *Academy of Management Journal*, 55, 1120–1145. <http://dx.doi.org/10.5465/amj.2010.1045>
- Herrera, M. E. (2015). Creating competitive advantage by institutionalizing corporate social innovation. *Journal of Business Research*, 68, 1468–1474. <http://dx.doi.org/10.1016/j.jbusres.2015.01.036>
- Hitt, D. H., & Tucker, P. D. (2016). Systematic review of key leader practices found to influence student achievement: A unified framework. *Review of Educational Research*, 86, 531–569. <http://dx.doi.org/10.3102/0034654315614911>
- Hocine, Z., & Zhang, J. (2014). Autonomy supportive leadership: A new framework for understanding effective leadership through self-determination theory. *International Journal of Information Systems and Change Management*, 7, 135–149. <http://dx.doi.org/10.1504/IJISCM.2014.069397>
- Hopwood, C. J., & Donnellan, M. B. (2010). How should the internal structure of personality inventories be evaluated? *Personality and Social Psychology Review*, 14, 332–346. <http://dx.doi.org/10.1177/1088868310361240>
- Howe, K. R. (2014). Philosophy of education and other educational sciences. *Theory and Research in Education*, 12, 77–87. <http://dx.doi.org/10.1177/1477878513517339>

- Humphreys, J. H., Haden, S. S., & Davis, J. N. (2015). Falling from a calling: Entitlement and the social (de)construction of leader identity. *Journal of Applied Management and Entrepreneurship*, 20(4), 6–24.
<http://dx.doi.org/10.9774/GLEAF.3709.2015.oc.00003>
- Hunter, L. (2012). Challenging the reported disadvantages of e-questionnaires and addressing methodological issues of online data collection. *Nurse Researcher*, 20, 11–20. <http://dx.doi.org/10.7748/nr2012.09.20.1.11.c9303>
- Iliescu, D., Ilie, A., Ispas, D., & Ion, A. (2013). Examining the psychometric properties of the Mayer-Salovey-Caruso Emotional Intelligence Test. *European Journal of Psychological Assessment*, 29, 121–128. <http://dx.doi.org/10.1027/1015-5759/a000132>
- Imai, K., Tingley, D., & Yamamoto, T. (2013). Experimental designs for identifying causal mechanisms. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, 176, 5–51. <http://dx.doi.org/10.1111/j.1467-985X.2012.01032.x>
- Jacobson, S. L., & Cypres, A. (2012). Important shifts in curriculum of educational leadership preparation. *Journal of Research on Leadership Education*, 7, 217–236. <http://dx.doi.org/10.1177/1942775112455117>
- Johnson, V. L., Simon, P., & Mun, E. (2014). A peer-led high school transition program increases graduation rates among Latino males. *Journal of Educational Research*, 107, 186–196. <http://dx.doi.org/10.1080/00220671.2013.788991>

- Judge, T. A., Bono, J., Ilies, R., & Gerhardt, M. (2002). Personality and leadership: A qualitative and quantitative review. *Journal of Applied Psychology, 87*, 765–780.
<http://dx.doi.org/10.1037//0021-9010.87.4.765>
- Kane, T. J. (2016). Connecting to practice. *Education Next, 16*(2), 80–87. Retrieved from
<http://educationnext.org/journal>
- Karakose, T., Yirci, R., & Kocabas, I. (2014). A qualitative study of the novice principals' problems in the school management process and solutions. *Pakistan Journal of Statistics, 30*, 1365–1378. Retrieved from <http://www.pakjs.com/>
- Kaufman, K. (2013). 21 ways to 21st century skills: Why students need them and ideas for practical implementation. *Kappa Delta Pi Record, 49*(2), 78–83,
<http://dx.doi.org/10.1080/00228958.2013.786594>
- Kojadinovic, I., & Yan, J. (2011). A goodness-of-fit test for multivariate multiparameter copulas based on multiplier central limit theorems. *Statistics and Computing, 21*, 17–30. <http://dx.doi.org/10.1007/s11222-009-9142-y>
- Kolderie, T. (2014). Which “alternate future” for public education? *Journal of School Choice, 8*, 282–284. <http://dx.doi.org/10.1080/15582159.2014.907688>
- Koya, K., Anderson, J., Sice, P., & Kotter, R. (2015). Attributes of embodied leadership: A beginning in the next chapter of leadership development. *Human Systems Management, 34*, 287–300. <http://dx.doi.org/10.3233/HSM-150848>
- Koyama, J. P., & Varenne, H. (2012). Assembling and disassembling: Policy as productive play. *Educational Researcher, 41*, 157–162.
<http://dx.doi.org/10.3102/0013189X12442799>

- Kulas, J. T. (2013). Personality-based profile matching in personnel selection: Estimates of method prevalence and criterion-related validity. *Applied Psychology, 62*, 519–542. <http://dx.doi.org/10.1111/j.1464-0597.2012.00491.x>
- Lakens, D. (2013). Calculating and reporting effect sizes to facilitate cumulative science: A practical primer for *t*-tests and ANOVAs. *Frontiers in Psychology, 4*, 863–875. <http://dx.doi.org/10.3389/fpsyg.2013.00863>
- Larson, L. C., & Miller, T. N. (2011). 21st century skills: Prepare students for the future. *Kappa Delta Pi, 47*, 121–123. <http://dx.doi.org/10.1080/00228958.2011.10516575>
- Latham, J. R. (2014). Leadership for quality and innovation: Challenges, theories, and a framework for future research. *Quality Management Journal, 21*, 11–15. Retrieved from <http://asq.org/pub/qmj/>
- Lee, J. (2014). Universal factors of student achievement in high-performing eastern and western countries. *Journal of Educational Psychology, 2*, 364–374. <http://dx.doi.org/10.1037/a0035609>
- Lee, M., Walker, A., & Chui, Y. L. (2012). Contrasting effects of instructional leadership practices on student learning in a high accountability context. *Journal of Educational Administration, 50*, 586–611. <http://dx.doi.org/10.1108/09578231211249835>
- Leithwood, K., & Sun, J. (2012). The nature and effects of transformational school leadership: A meta-analytic review of unpublished research. *Educational*

Administration Quarterly, 48, 387–423.

<http://dx.doi.org/10.1177/0013161X11436268>

Leo, U., & Wickenberg, P. (2013). Professional norms in school leadership: Change efforts in implementation of education for sustainable development. *Journal of Educational Change*, 14, 403–422. <http://dx.doi.org/10.1007/s10833-013-9207-8>

Levay, K. E., Freese, J., & Druckman, J. M. (2016). The demographic and political composition of Mechanical Turk samples. *SAGE Open*, 6, 1–17.

<http://dx.doi.org/10.1177/2158244016636433>

Liasidou, A., & Svensson, C. (2014). Educating leaders for social justice: The case of special educational needs co-ordinators. *International Journal of Inclusive Education*, 18, 783–797, <http://dx.doi.org/10.1080/13603116.2013.835878>

Linnenluecke, M. K., & Griffiths, A. (2013). Firms and sustainability: Mapping the intellectual origins and structure of the corporate sustainability field. *Global Environmental Change*, 23, 382–391.

<http://dx.doi.org/10.1016/j.gloenvcha.2012.07.007>

Loehlin, J. C. (2012). How general across inventories is a general factor of personality? *Journal of Research in Personality*, 46, 258–263.

<http://dx.doi.org/10.1016/j.jrp.2012.02.003>

Lorinkova¹, N. M., Pearsall, M. J., & Sims, H. P. (2013). Examining the differential longitudinal performance of directive versus empowering leadership in teams. *Academy of Management Journal*, 56, 573–596.

<http://dx.doi.org/10.5465/amj.2011.0132>

- Lynch, J. M. (2012). Responsibilities of today's principal: Implications for principal preparation programs and principal certification policies. *Rural Special Education Quarterly*, 31(2), 40–47. Retrieved from <http://acres-sped.org/journal>
- Mabey, C. (2013). Leadership development in organizations: Multiple discourses and diverse practice. *International Journal of Management Reviews*, 15, 359–380. <http://dx.doi.org/10.1111/j.1468-2370.2012.00344.x>
- Manoogian, S. (2006). *CPI 260 Coaching report for leaders: Advanced guide for interpretation*. Mountain View, CA: CCP, Inc.
- Markham, S. E. (2012). The evolution of organizations and leadership from the ancient world to modernity: A multilevel approach to organizational science and leadership (OSL). *Leadership Quarterly*, 23, 1134–1151. <http://dx.doi.org/10.1016/j.leaqua.2012.10.011>
- Mayr, S., Erdfelder, E., Buchner, A., & Faul, F. (2007). A short tutorial of GPower. *Tutorials in Quantitative Methods for Psychology*, 3(2), 51–69. <http://dx.doi.org/10.20982/tqmp.03.2.p051>
- McCarthy, M. (2015). Reflections on the evolution of educational leadership preparation programs in the United States and challenges ahead. *Journal of Educational Administration*, 53, 416–438. <http://dx.doi.org/10.1108/JEA-03-2014-0045>
- McCrae, R. R. (2014). A more nuanced view of reliability: Specificity in the trait hierarchy. *Personality and Social Psychology Review*, 19, 97–102. <http://dx.doi.org/10.1177/1088868314541857>

- McFadden, B. W. (2013). Entrepreneurship in public schools. *Leadership Magazine*, 42(5), 22–24. Retrieved from <http://www.acsa.org/Publications>
- McKibben, S. (2013). Do local-level principal preparation programs prevent principal turnover? *Public Purpose*, 11, 69–87. Retrieved from <https://www.american.edu/spa/publicpurpose/>
- McMahon, B. J. (2013). Conflicting conceptions of the purposes of schooling in a democracy. *Journal of Thought*, 48, 17–32. Retrieved from <http://journalofthought.com/>
- McQuinn, P. (2012). Stimulating reform: Race to the top, competitive grants and the Obama education agenda. *Educational Policy*, 26, 136–159. <http://dx.doi.org/10.1177/0895904811425911>
- Megargee, E. L. (2009). The California Psychological Inventory. In J. N. Butcher (Ed.), *Oxford handbook of personality assessment* (pp. 323–335). <http://dx.doi.org/10.1093/oxfordhb/9780195366877.013.0017>
- Metcalf, L., & Benn, S. (2013). Leadership for sustainability: An evolution of leadership ability. *Journal of Business Ethics*, 112, 369–384. <http://dx.doi.org/10.1007/s10551-012-1278-6>
- Mežinska, I., Lapiņa, I., & Mazais, J. (2013). Integrated management systems towards sustainable and socially responsible organisation. *Total Quality Management & Business Excellence*, 26, 469–481. <http://dx.doi.org/10.1080/14783363.2013.835899>

- Mihalcea, A. (2013). The impact of leader's personality on employee's job satisfaction. *Procedia–Social and Behavioral Sciences*, 78, 90–94.
<http://dx.doi.org/10.1016/j.sbspro.2013.04.257>
- Mittal, S., & Dhar, R. L. (2015). Transformational leadership and employee creativity: Mediating role of creative self-efficacy and moderating role of knowledge sharing. *Management Decision*, 53, 894–910. <http://dx.doi.org/10.1108/MD-07-2014-0464>
- Moe, T. M. (2015). Vested interests and political institutions. *Political Science Quarterly*, 130, 277–318. <http://dx.doi.org/10.1002/polq.12321>
- Moylan, C. A., Derr, A. S., & Lindhorst, T. (2015). Increasingly mobile: How new technologies can enhance qualitative research. *Qualitative Social Work*, 14, 36–47. <http://dx.doi.org/10.1177/1473325013516988>
- Mudge, J. F., Baker, L. F., Edge, C. B., & Houlahan, J. E. (2012). Setting an optimal α that minimizes errors in null hypothesis significance tests. *PLoS One*, 7(2), 1–7. <http://dx.doi.org/10.1371/journal.pone.0032734>
- Murane, R. J. (2013). U.S. high school graduation rates: Patterns and explanations. *Journal of Economic Literature*, 51, 370–422.
<http://dx.doi.org/10.1257/jel.51.2.370>
- Murphy, P. E., & Schlegelmilch, B. B. (2013). Corporate social responsibility and corporate social irresponsibility: Introduction to a special topic section. *Journal of Business Research*, 66, 1807–1813.
<http://dx.doi.org/10.1016/j.jbusres.2013.02.001>

- Nesbit, P. L. (2012). The role of self-reflection, emotional management of feedback, and self-regulation processes in self-directed leadership development. *Human Resource Development Review, 11*, 203–226.
<http://dx.doi.org/10.1177/1534484312439196>
- Onorato, M. (2013). Transformational leadership style in the educational sector: An empirical study of corporate managers and educational leaders. *Academy of Educational Leadership Journal, 17*(1), 33–47. Retrieved from
<http://www.alliedacademies.org/academy-of-educational-leadership-journal/>
- Orphanos, S., & Orr, M. T. (2014). Learning leadership matters: The influence of innovative school leadership preparation on teachers' experiences and outcomes. *Educational Management Administration Leadership, 42*, 680–700.
<http://dx.doi.org/10.1177/1741143213502187>
- Overton, W. F. (2015). Taking conceptual analyses seriously. *Research in Human Development, 12*, 163–171. <http://dx.doi.org/10.1080/15427609.2015.1069158>
- Padro, F. F. (2012). ISO 26000 and educational leader preparation. *Journal for Quality and Participation, 34*(4), 19–24. Retrieved from <http://asq.org/pub/jqp/>
- Paris, D. L., & Peachey, J. W. (2013). A systematic literature review of servant leadership theory in organizational contexts. *Journal of Business Ethics, 113*, 377–393. <http://dx.doi.org/10.1007/s10551-012-1322-6>
- Pavlakakis, A., & Kelley, C. (2016). Accreditation in the professions: Implications for educational leadership preparation programs. *Journal of Research on Leadership Education, 11*, 68–90. <http://dx.doi.org/10.1177/1942775116641663>

- Peck, C., & Reitzug, U. C. (2012). How existing business management concepts become school leadership fashions. *Educational Administration Quarterly*, *48*, 347–381.
<http://dx.doi.org/10.1177/0013161X11432924>
- Peck, C., & Reitzug, U. C. (2013). School turnaround fever: The paradoxes of a historical practice promoted as a new reform. *Urban Education*, *49*, 8–38.
<http://dx.doi.org/10.1177/0042085912472511>
- Pemberton, C. L. (2012). A “how-to” guide for the education thesis/dissertation process. *Kappa Delta Pi Record*, *48*, 82–86.
<http://dx.doi.org/10.1080/00228958.2012.680378>
- Perzigian, A. B., Afacan, K., Justin, W., & Wilkerson, K. L. (2016). Characteristics of students in traditional versus alternative high schools: A cross-sectional analysis of enrollment in one urban district. *Education and Urban Society*. Advance online publication. <http://dx.doi.org/10.1177/0013124516658520>
- Peterson, M. F., Arregle, J., & Martin, X. (2012). Multilevel models in international business research. *Journal of International Business Studies*, *43*, 451–470.
<http://dx.doi.org/10.1057/jibs.2011.59>
- Plunk, A. D., Tate, W. F., Bierut, L. J., & Grucza, R. A. (2014). Intended and unintended effects of state-mandated high school science and mathematics course graduation requirements on educational attainment. *Educational Researcher*, *43*, 230–241.
<http://dx.doi.org/10.3102/0013189X14540207>
- Purinton, T. (2013). Is instructional leadership possible? What leadership in other knowledge professions tells us about contemporary constructs of school

leadership. *International Journal of Leadership in Education*, 16, 279–300.

<http://dx.doi.org/10.1080/13603124.2012.732244>

Quaquebeke, N., & Eckloff, T. (2010). Defining respectful leadership: What it is, how it can be measured, and another glimpse at what it is related to. *Journal of Business Ethics*, 91, 343–358. <http://dx.doi.org/10.1007/s10551-009-0087-z>

Reckhow, S., & Snyder, J. W. (2014). The expanding role of philanthropy in education politics. *Educational Researcher*, 43, 186–195.

<http://dx.doi.org/10.3102/0013189X14536607>

Ree, M. J., Carretta, T. R., & Teachout, M. S. (2015). Pervasiveness of dominant general factors in organizational measurement. *Industrial and Organizational Psychology*, 8, 409–427. <http://dx.doi.org/10.1017/iop.2015.16>

Robinson, G. (2016). A federal role in education: Encouragement as a guiding philosophy for the advancement of learning in America. *University of Richmond Law Review*, 50, 919–1075. Retrieved from <http://lawreview.richmond.edu/>

Santamaria, L. J. (2014). Critical change for the greater good multicultural perceptions in educational leadership toward social justice and equity. *Educational Administration Quarterly*, 50, 347–391.

<http://dx.doi.org/10.1177/0013161X13505287>

Savage, G. C., & O'Connor, K. (2015). National agendas in global times: Curriculum reforms in Australia and the USA since the 1980s. *Journal of Education Policy*, 30, 609–630. <http://dx.doi.org/10.1080/02680939.2014.969321>

- Schaubhut, N. A., Thompson, R. C., & Morris, M. (2007, April). *CPI 260 validity: Comparing leaders in three countries*. Paper presented at the 22nd annual conference of the Society for Industrial Organizational Psychology, New York, NY. <http://dx.doi.org/10.1037/e518532013-448>
- Scott, J., & Jabbar, H. (2014). The hub and the spokes: Foundations, intermediary organizations, incentivist reforms, and the politics of research evidence. *Educational Policy*, 28, 233–257. <http://dx.doi.org/10.1177/0895904813515327>
- Searby, L., Browne-Ferrigno, T., & Wang, C. (2016). Assistant principals: Their readiness as instructional leaders. *Leadership and Policy in Schools*. Advance online publication. <http://dx.doi.org/10.1080/15700763.2016.1197281>
- Sebastian, J., & Allensworth, E. (2012). The influence of principal leadership on classroom instruction and student learning: A study of mediated pathways to learning. *Educational Administration Quarterly*, 48, 626–663. <http://dx.doi.org/10.1177/0013161X11436273>
- Sendjaya, S., Pekerti, A., Härtel, C., Hirst, G., & Butarbutar, I. (2016). Are authentic leaders always moral? The role of Machiavellianism in the relationship between authentic leadership and morality. *Journal of Business Ethics*, 133, 125–139. <http://dx.doi.org/10.1007/s10551-014-2351-0>
- Sliter, K. (2015). Assessing 21st century skills: Competency modeling to the rescue. *Industrial and Organizational Psychology*, 8, 284–289. <http://dx.doi.org/10.1017/iop.2015.35>

- Smith, I., & Addison, C. (2013). The “new” school leader: Training instructional leaders for a new generation of teachers and learners. *Academy of Educational Leadership Journal*, *17*(2), 135–140. Retrieved from <http://www.alliedacademies.org/academy-of-educational-leadership-journal/>
- Smith, J. E., Gavrilets, S., Borgerhoff Mulder, M., Hooper, P. L., El Mouden, C., Nettle, D.,...Smith, A. E. (2016). Leadership in mammalian societies: Emergence, distribution, power, and payoff. *Trends in Ecology & Evolution*, *31*, 54–66. <http://dx.doi.org/10.1016/j.tree.2015.09.013>
- Smith, K. T., & Alexander, J. J. (2013). Which CSR-related headings do Fortune 500 companies use on their websites? *Business Communications Quarterly*, *76*, 155–171. <http://dx.doi.org/10.1177/1080569912471185>
- Smith, L., & Goltz, H. H. (2012). What is hidden in my data? Practical strategies to reveal Yule-Simpson's Paradox and strengthen research quality in health education research. *Health Promotional Practice*, *13*, 637–641. <http://dx.doi.org/10.1177/1524839911419290>
- Smith, L., & Riley, D. (2012). School leadership in times of crisis. *School Leadership & Management*, *32*, 57–71. <http://dx.doi.org/10.1080/13632434.2011.614941>
- Sondergeld, T. A., Johnson, C. C., & Walten, J. B. (2016). Assessing the impact of a statewide STEM investment on K–12, higher education, and business/community STEM awareness over time. *School Science and Mathematics*, *116*, 104–110. <http://dx.doi.org/10.1111/ssm.12155>

- Sparapani, E. F., Perez, D. C., Gould, J., Hillman, S., & Clark, L. (2014). A global curriculum? Understanding teaching and learning in the United States, Taiwan, India, and Mexico. *SAGE Open*, *4*, 1–15.
<http://dx.doi.org/10.1177/2158244014536406>
- Spillman, L. (2014). Mixed methods and the logic of qualitative inference. *Qualitative Sociology*, *37*, 189–205. <http://dx.doi.org/10.1007/s11133-014-9273-0>
- Steers, R. M., Sanchez-Runde, C., & Nardon, L. (2012). Leadership in a global context: New directions in research and theory development. *Journal of World Business*, *47*, 479–482. <http://dx.doi.org/10.1016/j.jwb.2012.01.001>
- Stephens, N. M., Markus, H. R., & Phillips, L. T. (2014). Social class culture cycles: How three gateway contexts shape selves and fuel inequality. *Annual Review of Psychology*, *65*, 611–634. <http://dx.doi.org/10.1146/annurev-psych-010213-115143>
- Takahashi, K., Ishikawa, J., & Kanai, T. (2012). Qualitative and quantitative studies of leadership in multinational settings: Meta-analytic and cross-cultural reviews. *Journal of World Business*, *47*, 530–538.
<http://dx.doi.org/10.1016/j.jwb.2012.01.006>
- Taylor, R. T., Pelletier, K., Trimble, T., & Ruiz, E. (2014). Urban school district's preparing new principals program 2008-2011: Perceptions of program completers, supervising principals, and senior level. *International Journal of Educational Leadership Preparation*, *9*, 1–13. Retrieved from <http://www.ncpeapublications.org/>

- Ten Bruggencate, G., Luyten, H., Scheerens, J., & Slegers, P. (2012). Modeling influence of school leaders on student achievement: How can school leaders make a difference? *Educational Administration Quarterly*, *48*, 699–732.
<http://dx.doi.org/10.1177/0013161X11436272>
- Teti, E., Perrini, F., & Tirapelle, L. (2014). Competitive strategies and value creation: A twofold perspective analysis. *Journal of Management Development*, *33*, 949–976.
<http://dx.doi.org/10.1108/JMD-08-2012-0100>
- Thorpe, A. (2012). Leadership and the reform of education [Review of the book *Leadership and the reform of education*, by H. M. Gunter]. *British Journal of Educational Studies*, *60*, 207–208.
<http://dx.doi.org/10.1080/00071005.2012.682416>
- Tschopp, D., Wells, S., & Barney, D. (2012). The institutional promotion of corporate social responsibility reporting. *Journal of Academic & Business Ethics*, *5*, 1–18.
Retrieved from <http://www.aabri.com/jabe.html>
- Van Oord, L. (2013). Towards transformative leadership in education. *International Journal of Leadership in Education*, *16*, 419–434.
<http://dx.doi.org/10.1080/13603124.2013.776116>
- Vanderhoven, E., Schellens, T., Vanderlinde, R., & Valcke, M. (2016). Developing educational materials about risks on social network sites: A design based research approach. *Educational Technology Research and Development*, *64*, 459–480.
<http://dx.doi.org/10.1007/s11423-015-9415-4>

- Van Rossum, L., Aij, K. H., Simons, F. E., van der Eng, N., & ten Have, W. D. (2016). Lean healthcare from a change management perspective: the role of leadership and workforce flexibility in an operating theatre. *Journal of Health Organization and Management*, *30*, 475–493. <http://dx.doi.org/10.1108/JHOM-06-2014-0090>
- Vidyarthi, P. R., Erdogan, B., Anand, S., Liden, R. C., & Chaudry, A. (2014). One member, two leaders: Extending leader–member exchange theory to a dual leadership context. *Journal of Applied Psychology*, *3*, 468–483. <http://dx.doi.org/10.1037/a0035466>
- Voegtlin, C. (2011). Development of a scale measuring discursive responsible leadership. *Journal of Business Ethics*, *98*, 57–73. <http://dx.doi.org/10.1007/s10551-011-1020-9>
- Volmer, J., Koch, I. K., & Göritz, A. S. (2016). The bright and dark sides of leaders' dark triad traits: Effects on subordinates' career success and well-being. *Personality and Individual Differences*, *101*, 413–418. <http://dx.doi.org/10.1016/j.paid.2016.06.046>
- Wait, D. (2014). Imperial hubris: The dark heart of leadership. *Journal of School Leadership*, *24*, 1202–1232. Retrieved from <https://rowman.com/page/JSL>
- Waldfoegel, J. (2016). Presidential address: The next war on poverty. *Journal of Policy Analysis and Management*, *35*, 267–278. <http://dx.doi.org/10.1002/pam.21896>
- Watson, C. (2013). How (and why) to avoid making rational decisions: Embracing paradox in school leadership. *School Leadership & Management*, *33*, 256–269. <http://dx.doi.org/10.1080/13632434.2012.723614>

- Weiss, G., Templeton, N. R., Thompson, R., & Tremont, J. W. (2015). Superintendent and school board relations: impacting achievement through collaborative understanding of roles and responsibilities. *National Forum of Educational Administration & Supervision Journal*, 32(2), 4–16. Retrieved from <http://www.nationalforum.com/Journals/NFEASJ/NFEASJ.htm>
- Westerman, M. A. (2014). Examining arguments against quantitative research: “Case studies” illustrating the challenge of finding a sound philosophical basis for a human sciences approach to psychology. *New Ideas in Psychology*, 32, 42–58. <http://dx.doi.org/10.1016/j.newideapsych.2013.08.002>
- Whitt, K., Scheurlich, J. J., & Skrla, L. (2015). Understanding superintendents' self-efficacy influences on instructional leadership and student achievement. *Journal of School Leadership*, 25, 102–132. Retrieved from <https://rowman.com/page/JSL>
- Whitworth, B. A., & Chiu, J. L. (2015). Professional development and teacher change: The missing leadership link. *Journal of Science Teacher Education*, 26, 121–137. <http://dx.doi.org/10.1007/s10972-014-9411-2>
- Wilcox, R. R. (2014). Modern robust statistical methods can provide substantially higher power and a deeper understanding of data. *Annals of Phytomedicine*, 3, 25–30. Retrieved from <http://www.ukaazpublications.com/publications/index.php>
- Wilkerson, J. M., Lantaffi, A., Grey, J. A., Bockting, W. O., & Rosser, B. R. (2014). Recommendations for Internet-based qualitative health research with hard-to-reach populations. *Qualitative Health Research*, 24, 561–574. <http://dx.doi.org/10.1177/1049732314524635>

- Wilson, E. (2015). Student teachers in school practice: An analysis of learning opportunities. *Journal of Education Policy, 31*, 239–240.
<http://dx.doi.org/10.1080/02680939.2015.1087660>
- Woltman, H., Feldstain, A., MacKay, J. C., & Rocchi, M. (2012). An introduction to hierarchical linear modeling. *Tutorials in Quantitative Methods for Psychology, 8*, 52–69. <http://dx.doi.org/10.20982/tqmp.08.1.p052>
- Woods, C. E. (2011). Using Q methodology to explore leadership: The role of the school business manager. *International Journal of Leadership in Education: Theory and Practice, 14*, 317–335. <http://dx.doi.org/10.1080/13603124.2010.507877>
- Yammarino, F. (2013). Leadership: Past, present, and future. *Journal of Leadership & Organizational Studies, 20*, 149–155.
<http://dx.doi.org/10.1177/1548051812471559>
- Yettick, H., Baker, R., Wickersham, M., & Hupfeld, K. (2014). Rural districts left behind? Rural districts and the challenges of administering the Elementary and Secondary Education Act. *Journal of Research in Rural Education, 29*(13), 1–16.
Retrieved from <http://jrre.psu.edu/>
- Yukl, G. (2012). Effective leadership behavior: What we know and what questions need more attention. *Academy of Management Perspectives, 26*(4), 66–85.
<http://dx.doi.org/10.5465/amp.2012.0088>
- Zepeda, S. J., Bengston, E., & Parylo, O. (2012). Examining the planning and management of principal. *Journal of Educational Administration, 50*, 136–158.
<http://dx.doi.org/10.1108/09578231211210512>

Appendix A: 29 CPI 260 Scales With Descriptions

Folk Scales	Definition
Dominance (Do)	To assess prosocial interpersonal dominance, strength of will, and perseverance in pursuit of goals
Capacity for Status (Cs)	To measure personal qualities that are associated with and that lead to high social status, including ambition and self-confidence
Sociability (Sy)	To identify people who are outgoing and socially affiliative, and who enjoy social participation
Social Presence (Sp)	To identify people who are self-assured, comfortable being the center of attention, and socially adroit
Self-acceptance (Sa)	To identify people with high self-esteem, a strong sense of personal worth, and optimism
Independence (In)	To assess the twin elements of psychological strength and interpersonal detachment, including self-sufficiency and self-direction
Empathy (Em)	To identify people with a talent for understanding how others feel and think, and who display warmth and tactfulness in their dealings with others
Responsibility (Re)	To identify people who are aware of societal rules, and who can and do comply with them when this is appropriate
Social Conformity (So)	To assess the degree to which societal norms have been internalized and become autonomously operational within the individual
Self-control (Sc)	To assess a continuum going from under control and expressiveness at one pole to over control and suppression of affect at the other
Good Impression (Gi)	First, for very high scores, to identify overly strong attempts to create a favorable impression; and second, to identify people whose style of self-presentation emphasizes ingratiation and compliance
Communality (Cm)	To assess a continuum going from erratic or random answering at one pole to close agreement with ordinary beliefs and conventions at the other
Well-being (Wb)	To assess feelings of physical and psychological well-being
Tolerance (To)	To assess attitudes of tolerance, forbearance, and respect for others, stemming from ethical convictions about the worth of all people
Achievement via Conformance (Ac)	To assess achievement potential in well-being and structured situations, joined to a general desire to do well
Achievement via Independence (Ai)	To assess achievement potential in open, minimally defined situations, in which ingenuity and initiative are required for successful performance

Conceptual Fluency (Cf)	To identify people who deal easily with abstract and complex concepts, and who believe in their own talent
Insightfulness (Is)	To identify people who can think analytically about themselves and others, who can see beyond surface cues, and who are aware of subtle meanings
Flexibility (Fx)	To assess a continuum going from resistance to change and dislike of uncertainty at one pole to a liking for change and innovation at the other
Sensitivity (Sn)	To assess a continuum going from tough-minded practicality and relative uninterest in personal feelings at one pole to sensitivity, solicitude for others, and a sense of own vulnerability at the other
Work Oriented Scales	Definition
Managerial Potential (Mp)	To identify people with an interest in management and who have effective interpersonal skills and good judgment
Work Orientation (Wo)	To identify people with a dutiful work ethic, a strong sense of commitment to their job, and little need for overt recognition
Creative Temperament (Ct)	To identify people of an imaginative, creative temperament, with both the need and potential for visualizing new and different ways of doing things
Leadership (Lp)	To identify people who have good leadership skills, who aspire to positions of leadership, and who will be accepted as leaders by others
Amicability (Ami)	To identify people who are amicable, friendly, and considerate of others, who try to avoid conflicts, and who seldom become angry or irritated
Law Enforcement Orientation (Leo)	To identify people who view law enforcement and societal rules favorably, who believe punishment for violation of such rules is deserved, and who are well-suited for work in the law enforcement field
Vector Scales	Definition
Vector 1 (v.1) (Orientation Toward others)	To define a basic dimension of personality going from involvement, participative inclinations, and a readiness to act at one pole to a need for privacy, reluctance to commit self to any irreversible course of action, and a desire to shelter own feelings at the other
Vector 2 (v.2) (Orientation Toward Societal Values)	To define a basic personality dimension going from a rule-questioning, norm-doubting perspective at one pole to a rule-accepting, norm-favoring perspective at the other
Vector 3 (v.3) (Orientation Toward Self)	To define a basic personality dimension going from general dissatisfaction, feelings of psychological inadequacy, and poor ego integration at one pole to self-realization, feelings of psychological competence, and ego resilience at the other

Appendix B: Comparison of Reliabilities and Validities of Scale Coefficients Between
the CPI 260 and the CPI 434

Scale	CPI 260 Scale Coefficients (<i>N</i> =6000)	Correlations between CPI 434 and CPI 260 Scales (<i>N</i> =6000)
Dominance (Do)	.86	.95
Capacity for Status (Cs)	.74	.94
Sociability (Sy)	.77	.97
Social Presence (Sp)	.65	.96
Self-acceptance (Sa)	.68	.96
Independence (In)	.75	.94
Empathy (Em)	.60	.93
Responsibility (Re)	.73	.95
Social Conformity (So)	.73	.95
Self-control (Sc)	.77	.97
Good Impression (Gi)	.77	.96
Communality (Cm)	.55	.81
Well-being (Wb)	.76	.93
Tolerance (To)	.78	.95
Achievement via Conformance (Ac)	.76	.97
Achievement via Independence (Ai)	.78	.96
Conceptual Fluency (Cf)	.78	.96
Insightfulness (Is)	.64	.96
Flexibility (Fx)	.68	.96
Sensitivity (Sn)	.54	.82
Managerial Potential (Mp)	.77	.97
Work Orientation (Wo)	.70	.93
Creative Temperament (Ct)	.71	.91
Leadership (Lp)	.85	.93
Amicability (Ami)	.75	.96
Law Enforcement Orientation (Leo)	.36	.89
Vector 1 (v.1)	.80	.93
Vector 2 (v.2)	.70	.94
Vector 3 (v.3)	.83	.95
Median	.75	.95

Appendix C: CPI 260 Scales Norms for the CCL Executive Norm Sample Group

Scale	Mean Scale Value	Midrange
Dominance (Do)	61	55-67
Capacity for Status (Cs)	59	53-65
Sociability (Sy)	56	50-63
Social Presence (Sp)	54	47-61
Self-acceptance (Sa)	58	52-64
Independence (In)	62	57-67
Empathy (Em)	60	54-67
Responsibility (Re)	55	50-61
Social Conformity (So)	56	50-61
Self-control (Sc)	54	48-61
Well-being (Wb)	57	52-62
Tolerance (To)	61	57-66
Achievement via Conformance (Ac)	58	53-63
Achievement via Independence (Ai)	63	58-67
Insightfulness (Is)	60	55-65
Flexibility (Fx)	55	48-62
Sensitivity (Sn)	43	36-50
Managerial Potential (Mp)	65	60-70
Creative Temperament (Ct)	58	51-65
Leadership (Lp)	62	57-67
Amicability (Ami)	56	50-63

Appendix D: CPI 260 Training Certificate



Appendix E: Consent Form

CONSENT FORM

You are invited to take part in a research study focusing on leadership personality scales amongst K-12 school leaders. The researcher is inviting supervisory to top executive level school leaders to participate in the research. This form is part of a process called “informed consent” to allow you to understand this study before deciding whether to participate.

This study is being conducted by a researcher named Kevin Kaufman who is a doctoral student at Walden University. There are no known conflicts of interest between the research, potential participants, or the organization where this research will be conducted.

Background Information:

The purpose of this study is to determine if the current leadership personality scale scores of school leaders differ from national standards as observed in business leaders.

Procedures:

If you agree to be in this study, you will be asked to participate in a 30-40 minute on-line assessment consisting of a few demographic-based questions and 260 true-false survey questions.

Here are some sample questions:

- (1) [Demographic] Highest level of education completed.
- (2) [Demographic] Languages spoken fluently.
- (3) [Survey] I always see to it that my work is carefully planned and organized.
- (4) [Survey] I like to give orders and get things moving.
- (5) [Survey] If given the chance I would make a good leader of people.
- (6) [Survey] I doubt whether I would make a good leader.
- (7) [Survey] I think I am usually a leader in my group.
- (8) [Survey] I am not the type to be a political leader.

Voluntary Nature of the Study:

This study is voluntary. Everyone will respect your decision of whether or not you choose to be in the study. No one at your organization will treat you differently if you decide not to be in the study. If you decide to join the study now, you can still change your mind during or after the study. You may end your participation at any time.

Risks and Benefits of Being in the Study:

Participating in this type of research study involves some minor risk of experiencing personal discomforts similar to those which can be encountered in daily life, such as becoming personally upset with topics being discussed or with becoming personally

upset with some of the assessment results. In no way do the results of the study reflect upon your character or your professional abilities. Participating in this study would not pose any risk to your physical safety or well-being.

The study will provide insight as to whether or not school staff members are receiving adequate leadership development to prepare them for positions of increased responsibility.

Payment:

Participation is voluntary and will not be monetarily compensated. Each participant will receive an individual Coaching Report for Leaders, which outlines the results of the assessment and can be used to identify personality and leadership strengths as well as target areas for further development.

Privacy:

Any information you provide will be kept anonymous in all published reports. The researcher will not use your personal information for any purposes outside of this research project. Also, the researcher will not disclose your name or any other personal identifying information that could reveal your identity. All research data will be kept secure via password-protected data files stored in a secured lock box for a period of at least 5 years, as required by the university.

Contacts and Questions:

You may ask any questions you have now, or if you have questions later, you may contact the researcher via Kevin.Kaufman@waldenu.edu. If you want to talk privately about your rights as a participant, you can contact Dr. Leilani Endicott, the Walden University representative who can discuss this with you, via email (irb@waldenu.edu) or telephone. Her phone number is 1-800-925-3368, extension 1210 within the USA or 001-612-312-1210 from outside the USA. This assessment is a partial requirement for the Walden University Doctor of Business Administration (DBA) degree program and has been approved by the research chair, Dr. Ronald Black. You should maintain a copy of your signed consent form for your own records. The researcher will give you a copy once signed.

Statement of Consent:

I have read the above information, and I feel I understand the study well enough to make a decision about my involvement. By signing below, I understand that I agree to the terms described above.

Printed Name of Participant: _____

Date of Consent: _____

Participant's Signature: _____

Researcher's Signature: _____

Appendix F: CPP Support Offer Letter

February 19, 2014

Kevin Kaufman
CMR 469, Box 1193, APO AE 09227
kevin.kaufman@waldenu.edu
011-49-173-634-5979

Dear Mr. Kaufman,

I am writing to inform you that we are pleased to offer our support your project entitled, "BUSINESS-ORIENTED LEADERSHIP COMPETENCIES OF K-12 EDUCATIONAL LEADERS". Our support offer includes:

- 85% discount off bulk pricing for up to 60 CPI 260® Coaching Report for Leaders Administrations (product code 219350) on SkillsOne®, CPP's commercial website, billed upon administrations used. Taxes may apply.
- Free SkillsOne® account setup.
- Must purchase the following materials, each at 80% discount:
 - CPI 260® Coaching Report for Leaders User's Guide (product code 1931)
 - CPI 260® Coaching Report for Leaders Advanced Guide for Interpretation (product code 1937)
 - CPI 260® Manual (product code 1921)
- Free data file (including demographics, item responses, and CPI 260® scores) upon completion of data collection.

To accept our offer of support, please print and sign this letter and email to me at nas@cpp.com or fax to 650-240-1303. By accepting this support you agree to: (a) provide regular progress reports, (b) present or publish your findings in a scholarly venue, (c) not share the data without further permission from CPP, and (d) not use support from CPP to develop competing instruments. I will send the requested materials following receipt of your letter of acceptance.

Offer of support expires April 19, 2014.

Administrations under this discount are valid until February 19, 2016.

I appreciate your interest in the CPI 260® assessment and look forward to hearing about the results of your work. Please feel free to contact me if I can be of further assistance. I can be reached at nas@cpp.com. Best of luck in your work!

Sincerely,

Nancy Schaubhut, M.S.

I accept the offer letter.

February 25, 2014



Kevin Kaufman