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# The Relationship Between Authentic Leadership in Project Managers and Project Success

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This is to certify that the doctoral dissertation by

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Walden University
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MBA, Webster University, 1999

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## Abstract

Authentic leadership has been shown to influence prosocial employee attributes and behaviors. However, the relationship between authentic leadership in people without positional authority or power in an organization has not been studied as extensively. Therefore, the purpose of this study was to explore the relationship between nonpositional leaders in an organization and the authentic leadership components of relational transparency, self-awareness, ethical/moral values, and balanced processing, and to determine if authentic leadership in an organization's project managers predicted project success. A second purpose was to determine if the possession of a project management credential moderated the relationship between authentic leadership and project success. Using the Authentic Leadership Questionnaire (ALQ) and the Project Success Questionnaire (PSQ), data were gathered from 61 participants. Regression analysis indicated a statistically nonsignificant relationship between authentic leadership factors in project managers and project success and possession of a project management credential did not significantly moderate the relationship. This study has positive social change implications in that in an increasingly project-centric world there are more nonpositional leaders with broad influence in organizations. While the results were nonsignificant, the study helps extend what is known about authentic leadership. The findings of this study could promote positive social change by helping organizational leaders and project managers in any industry better understand how authentic leadership competencies may support project success and greater organizational effectiveness, ultimately influencing the local and global economy.

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# Dedication

This dissertation is dedicated to my mother, Jane, who supported and motivated me through this odyssey. She provided help when I needed it; her support and dedication to me throughout this process was instrumental in helping me to achieve this goal. I am thankful for my extended family of Cori and John Bruckner, who provided encouragement and support over the years as I worked through each step of this impossible journey. Thank you all for your love, inspiration, and motivation!

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Thank you, Jane Levý, for your love, inspiration, and support throughout this process. Without you, I couldn't have finished. I am sorry you're not around anymore to share in our success.

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# Chapter 1: Introduction to the Study

Although ethics-based leadership has been the subject of study since the 1930s (Novicevic, Harvey, Buckley, Brown, & Evans, 2006), the relationship between authentic leadership in leaders—leaders who know and are comfortable with who they are—without positional authority or power in an organization has not been studied as extensively. The focus of this study was to examine the link between factors of authentic leadership in project managers and project success. By doing so, the research may fill a gap in research regarding authentic leadership in those employees who do not have formal leadership positions in an organization but do have leadership responsibilities. The Project Management Institute (PMI, 2015) noted projects of some sort are a part of nearly every organization and may be directly or indirectly a part of the revenue stream or the services an organization provides. The effect of projects on the global economy is significant; PMI reported in 2017 unsuccessful projects accounted for approximately U.S. $97 million lost for every U.S. $1 billion spent (PMI, 2017).

The implications of projects and project success are far-reaching. The Standish Group (2013) noted even organizations that are not project-centric are affected by successful and failed projects, as are the people who work for those organizations Additionally, the percentage of successful projects increased to 39% in 2012 and failed or challenged projects decreased to 61% in 2012 from 63% in 2010, according to the Standish Group. PMI estimated that business services and healthcare would drive the creation of over 15 million roles and over 6 million new jobs encompassing project management activities and responsibilities between 2010 and 2020 (PMI, 2016).

The societal implications of authentic leadership are also far-reaching. Employees who are happy in their work organizations may be more productive and motivated to perform. Avolio, Gardner, Walumba, Luthans, and May (2004) noted authentic leadership influences prosocial employee attributes and behaviors, including creativity and innovation, organizational commitment, organizational trust, and psychological capital. Warszewska-Makuch, Bedynska, and Zoinierczyk-Zreda (2015) noted authentic leadership in conjunction with co-worker support might prevent workplace bullying and the employee stress that is often a by-product of workplace bullying. The influence of authentic leadership extends beyond a corporate or organizational balance sheet; Avolio et al. proposed authentic leaders are best positioned to resolve policy and problem issues in society.

The introductory chapter to this research paper is divided into descriptive sections. These sections include the background on the concepts of authentic leadership, project managers, and project success, the problem statement and gap in the literature, and purpose of the study, the research questions and hypotheses, the theoretical framework of the study, nature of the study, definitions, assumptions, scope and delimitations, limitations, and significance of the study. The chapter concludes with a summary.

## Background

There is a documented relationship between authentic leadership in leaders with positional authority and positive employee behaviors and organizational success (Bamford, Wong, & Laschinger, 2013; Gill, 2012; Lanzoni & Meirelles, 2011; Leroy,

Palanski, & Simons, 2012; Peus, Kerschreiter, Frey, & Traut-Mattausch, 2010). Leader titles can range from chief executive officer to line manager of an organization. However, there is a gap in the research describing the relationship between authentic leadership in employees who do not have direct managerial or supervisory positions in an organization, but have leadership roles, and positive employee outcomes. For example, Lloyd-Walker and Walker (2011) noted project managers are examples of informal leaders in an organization and are responsible for leading project team members, project sponsors, and other key stakeholders throughout the project lifecycle. However, project managers rarely have formal leadership positions within an organization, no real authority over project team members, and often have not been trained in leadership skills (Lloyd-Walker & Walker, 2011).

In the literature, *project manager* is defined as a professional with the overall responsibility of getting things done; the method for how this is achieved has changed since the late 1990s. For example, Toor and Ofori (2008) suggested a gradual movement away from the concentration on technical skills of construction project managers and a new focus on management and soft skills to influence project outcomes, to include scope, schedule, and budget. Lloyd-Walker and Walker (2011) noted an emphasis on project managers to provide to the organization the best project cost-benefit within the objectives of scope, schedule, and budget. Whether an organization emphasizes management of people or management of technical project management skill sets, Morris (2004) suggested an organizational expectation of the mastery of scope, scheduling, and budget management in project managers.

According to the PMI (2017), projects are more important to organizations than ever. PMI also noted projects—both successful and unsuccessful—are an important factor in world economic health. Project managers are nonpositional leaders who facilitate the execution of projects, yet the connection between project managers who are authentic leaders and project success is unknown. This study was needed to understand the relationship between authentic leadership in informal leaders such as project managers and project success, and whether possession of a professional project management credential moderates this relationship.

## Problem Statement

Lloyd-Walker and Walker (2011) described the project manager role as one in which the focus is to lead people to accomplish project and organization objectives even while the connection between project *leading* activities and project success has not been the focus of study in the literature. Toor and Ofori (2008) noted the lack of leadership training for construction project managers has been a problem for the construction industry and suggested projects that fail are problematic for organizations because those projects directly influence an organization's revenues and expenditures and may affect an organization's ability to grow.

An additional problem for project management in organizations is determining the appropriate leadership style for meeting project budget, schedule, and scope objectives during the project lifecycle, as not all leadership approaches are suitable for each phase of the project management process (Turner & Müller, 2005). While Turner and Müller described project managers as operating primarily as transactional leaders, Toor and

Ofori (2008) noted characteristics of authentic leadership encompass features of transactional and transformational leadership styles, suggesting authentic leadership characteristics are an attribute of multiple positive leadership styles. Avolio and Gardner (2005) suggested the behavior, values, and transparency of authentic leaders inspires and invigorates followers and these characteristics of authentic leadership promote positive employee behaviors in the organization. Because project managers are often not viewed as leaders in an organization even though they are expected to lead disparate groups of people toward project goals (Lloyd-Walker & Walker, 2011), it is important the relationship between authentic non-titled leaders and successful projects be understood.

Successful projects are important for organizations in that the ability to provide services or realize profit may be dependent on the success or failure of projects as well as the project manager's capacity to lead those projects (Toor & Ofori, 2008); the PMI (2015) has noted projects may comprise a large portion of how an organization meets its goals. Additionally, Turner and Müller (2005) noted effective leadership in an organization influences overall success and has a positive effect on employee performance and suggested project manager leadership is a component of organizational success. The specific problem is the relationship between project managers who are authentic leaders and project success—defined as meeting project budget, schedule, and scope objectives—is not known, and the effect on organizational members who rely on successful projects and leadership of those project teams may be adversely affected in terms of project scope, schedule, and budget. Additionally, whether a professional project management qualification such as the PMI, Project Management Professional (PMP), or

Certified Associate in Project Management (CAPM) credential moderates this relationship is unknown as well. If a professional credential does not relate to project success, it may be that organizations and project managers should focus more on development of authentic leadership skills.

A gap in the research exists regarding the relationship between project success—defined as meeting project budget, schedule, and scope objectives—and authentic leaders in an organization who fulfill an informal leadership role. In addition to predicting project success, if the relationship exists between project managers who are also authentic leaders and project success, further research could be performed examining the relationship between organizational leaders who are not positional leaders and positive employee outcomes. If authentic leadership skills predict project success, then organizational leaders may choose to place a greater emphasis on leadership competencies during the project manager selection process to decrease the outlay for each project. Understanding how authentic leadership in project managers is related to project success may also contribute to useful information for project manager training, development, and certification.

## Purpose of the Study

The purpose of this quantitative study using multiple regression analysis was to investigate if authentic leadership in an organization's project managers predicts project success. A second purpose was to determine if the possession of a professional project management credential such as the PMI PMP or CAPM certifications moderates the relationship between authentic leadership and project success. The goal of this study was

to examine the relationship between authentic leadership in project managers and project success, and if a significant relationship exists, further study may be needed to determine if there should be a focus on authentic leadership capabilities in project manager training. An additional purpose was to determine if possession of a project management credential such as the PMI PMP or CAPM credentials moderates the relationship between project managers who are authentic leaders and project success objectives of budget, schedule, and scope.

## Research Questions and Hypotheses

Authentic leadership characteristics and possession of a professional project management credential formed the foundation for the research questions and hypotheses. The characteristics of authentic leaders include leader self-awareness, a sense of internalized morality, the ability to process multiple sources of information, and honesty/transparency in dealings with others (Novicevic et al., 2006). Starkweather and Stevenson (2011) and Toljaga-Nikolić (2011) noted in addition to project manager core technical competencies, some organizations also value a professional project management credential such as the PMI PMP or CAPM as elements of successful projects. The research questions and hypotheses examined the relationship between authentic leadership in project managers and project success and the degree to which a PMP or CAPM credential moderates this relationship.

Research Question 1: What is the relationship between authentic leadership in project managers and project success, defined as meeting project scope, schedule, and budget objectives?

$H_0$1: Authentic leadership characteristics in project managers as measured by the Authentic Leadership Questionnaire (ALQ) do not predict project success as measured by the Project Success Questionnaire (PSQ).

$H_A$1: Authentic leadership characteristics in project managers as measured by the ALQ predict project success as defined by the PSQ.

Research Question 2: Does a PMP or CAPM credential moderate the relationship between authentic project managers and project success, defined as meeting project scope, schedule, and budget objectives?

$H_0$2: A PMP or CAPM credential does not moderate the relationship between authentic project managers and project success as defined by the PSQ.

$H_A$2: A PMP or CAPM credential moderates the relationship between authentic project managers and project success as measured by the PSQ.

## Theoretical Framework for the Study

The foundational theories important in understanding the relationship between authentic leadership, nonpositional leaders such as project managers, professional project management credentials, and project success include authentic leadership theory, social identity theory, and project management theory. Avolio and Gardner (2005) noted authentic leadership theory originated from education, positive psychology, and sociology. Positive employee behavior has been observed in organizations where leaders are practitioners of authentic leadership; authentic leadership characteristics include relational transparency, high moral code, self-awareness, and balanced processing (Woolley, Caza, & Levy, 2011). The connection between authentic leaders and their

followers—such as the social identity of the project manager within the overall project team— is described by social identity theory and may also explain the influence the group may have on the individual (Turner & Oakes, 1986). Although the literature does not reveal agreement on a unified project management theory, Bredillet (2008) noted multiple theories such as systems theory, contingency theory, and leadership theories might contribute to theories of project management.

Avolio and Gardner (2005) noted authentic leader behaviors may have a positive impact on followers. The first research question is related to authentic leadership theory and is concerned with the connection between authentic leadership and measures of organizational achievement, such as project success. Because project managers lead project team members in project activities to achieve project success, social identity theory and its explanation of the dynamic between a group member and the group itself is a foundational construct in the approach to this study and relates to the connection between an authentic nonpositional leader project manager and project success.

## Nature of the Study

The purpose of this quantitative non-experimental correlational study using regression analysis was to determine the relationship between authentic leadership in nonpositional leader project managers and project success. Also examined was whether the possession of a professional project management credential by the nonpositional leader project manager moderated this relationship. A quantitative approach using a cross-sectional design best focused this research study on understanding the relationship between nonpositional leader project manager and project success. The predictive

variable was authentic leadership characteristics and the moderating variable was the PMI, PMP, or CAPM credential. The outcome variable was project success, defined in this study as the achievement of project scope, schedule, and budget objectives. Project success was defined as a combination of cost, schedule, scope, and achievement of technical and functional requirements and project objectives (Prabhakar, 2008).

Research participants consisted of active PMI members, members of project management groups in the LinkedIn social media platform, and the Walden University Participant Pool. Data were collected using a web-based leadership instrument and questionnaire. According to the literature, questionnaires and surveys are often the data collection instruments used to measure leadership traits and attributes. The ALQ (Walumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008) was used to measure authentic leadership characteristics and the PSQ was used to measure project success (LeBlanc, 2008). This correlational study described the relationship between authentic leadership as measured by the ALQ (Mind Garden, 2007; Walumbwa et al., 2008) and project success as measured by criteria described by Turner and Zolin (2012). Multiple regression was used to predict the effect of authentic leadership and possession of a project management credential by nonpositional leader project managers or those fulfilling the role of project manager in the project manager population. The sample selection criteria included respondents who possessed a professional project management credential, as well as those who did not possess a project management credential.

## Definitions

The following terms were used in this study:

*Authentic Leadership Questionnaire:* The ALQ is an instrument that quantifies authentic leadership characteristics (Walumbwa et al., 2008).

*Certified Associate in Project Management:* The CAPM is a basic certification for new project practitioners (PMI, 2017).

*Project budget:* A project budget is a method of allocating funds to financially meet the project objectives and deliverables; it is often time-bound (MyManagementGuide.com, 2017).

*Project Management Institute:* PMI is a global project management organization that promotes standards and project management certifications (PMI, 2017).

*Project Management Professional:* The PMP is a qualification program sponsored by the PMI (PMI, 2017).

*Project manager:* The project manager is an accountable person charged with facilitation of activities in all phases of a project, stakeholder expectations, the project team, and project success or failure (Corporate Education Group, 2017). The project manager is a nonpositional leader who does not hold a formal leadership title or have human resource responsibilities in an organization but who influences and directs project team members during a project (Pescosolido, 2001).

*Project schedule:* A project schedule is a communication tool that states the work to be done (Ray, 2017).

*Project scope:* Project scope is the defined work that is needed so that project objectives are met (PMI, 2013).

*Project success:* Project success is defined as a focus on schedule, cost, and scope (Judgev & Müller, 2005).

*Project Success Questionnaire:* The PSQ is an instrument for measuring project success, incorporating the constraints of project scope, schedule, and budget (LeBlanc, 2008).

## Assumptions

In this quantitative non-experimental study, there were three assumptions. These assumptions were necessary because the identification of voluntary project manager respondents could not be controlled. The first assumption was study participants were in project management roles of some sort at the time of the study or had been in a project management role in the past. The second assumption was participation in the study by respondents was voluntary and not coerced. The third assumption was research study participants responded to instrument questions with honesty and integrity.

## Scope and Delimitations

The purpose of this study was to investigate the relationship between project manager authentic leadership capabilities and project success, with focus also on whether possession of a project management credential such as the PMP or CAPM credential moderated the relationship. Two main threats to the strength of this study were in the measurement of the variables *authentic leadership* through the ALQ instrument (Walumbwa et al., 2008) and *project success* through the PSQ instrument (LeBlanc, 2008). Measurement of the moderating variable *professional project management credential* did not pose a threat to the study. The approach of this study was narrowly

constrained to project managers or those people in a project management role who were also authentic leaders, so the effects of confounding variables were eliminated; instruments with internal validity were also utilized, and the result was a study with internal validity (see Statisticshowto.com, 2017).

The ability to replicate this research to other situations, people, and times is known as external validity and the applicability of the study to the world at large is generalizability (Statisticshowto.com, 2017). The focus of the current study was on the relationship between nonpositional leaders such as project managers who exhibit authentic leadership characteristics and positive organizational outcomes, such as successful projects. As such, the random study sample of project managers or those people in a project management role were generalized to the larger population of nonpositional organization leaders.

## Limitations

Limitations of this study included actions or activities contradicting the assumptions stated in the study. These actions included failure of the study participants to answer instrument questions truthfully and honestly and that participants were in a project management role at the time of the study or have been in the past. An additional limitation was that there could have been few study participants who met the criteria for authentic leadership as described in the ALQ; there may also have been few projects deemed to be successful according to the PSQ. There could also have been few study participants who possessed a PMP or CAPM credential who were authentic leaders and had successful projects so the moderating effect of the credential could be determined. A

further limitation of this research concerned causality and correlation in that Handy, Cao, and Mokhtarian (2005) and Perdicoúlis (2013) suggested the nature of non-experimental cross-section design provides assessment of the relationship between the predictor and outcome variables and not causality. According to Simon and Goes (2011), "the main purpose of a correlational study is to determine relationships between variables, and if a relationship exists, to determine a regression equation that could be used make predictions to a population" (para. 1).

## Significance

Because project activities in the profit and non-profit world may contribute directly to the global economy and services provided by private and public agencies, the discoveries noted in this research study promoted positive social change by helping organizational leaders and project managers in any industry understand how authentic leadership competencies may support project success and greater organizational effectiveness (PMI, 2015). Additionally, Hannah, Avolio, and Walumbwa (2011) suggested that authentic leadership is positively linked to follower pro-social and principled behavior; society and organizations benefit when followers model authentic leader ethical behavior in ethically challenging situations. The potential effects of positive behavior as modeled by authentic leaders may also result in positive change not only within an organization at different levels but outside of the organization as well (Luthans & Youssef, 2007).

The potential societal and economic change implications of nonpositional leaders who characterize authentic leadership are broad. The effect of a positive workplace

extends beyond the organization and into the personal lives of employees, according to Novicevic et al. (2006). Authentic leaders promote positive employee behaviors in the workplace that may relieve stress (Warszewska-Makuch et al., 2015) and influence policy and resolve societal problems, as noted by Avolio et al. (2004). Project managers who demonstrate characteristics of authentic leadership may positively influence the new project-focused roles and jobs that PMI (2016) predicts will be added to the workforce. Authentic leadership in nonpositional leaders positively affects both the economic and social aspects of society (Avolio & Gardner, 2005).

This study was warranted because, although the link between authentic leadership characteristics in leaders and positive employee outcomes has been established (Bamford et al., 2013; Gill, 2012; Lanzoni & Meirelles, 2011; Leroy et al., 2012; Peus et al., 2010), the relationship between an organization's nonpositional authentic leaders and positive organizational outcomes such as project success is less clear. Pescosolido (2001) suggested that nonpositional leaders are employees in an organization with no human resource department-mandated responsibilities but who influence group or team member activities, perceptions, and performance; nonpositional leaders may include employees who have diverse functions across an organization such as team lead, committee chair, union shop steward, or project manager.

## Summary

In the introduction to this study, I discussed the gap in the research regarding the relationship between project managers who are authentic leaders with positive organization outcomes and continued with a brief review of the foundational and

theoretical constructs of authentic leadership, project management, project success, and the PMI PMP or CAPM credentials. I also addressed the problem statement, research questions, and hypotheses regarding the relationship between project managers or those people who have fulfilled the role of project manager who are authentic leaders and project success, as well as the degree to which possession of a PMI PMP or CAPM credential moderates this relationship. A quantitative non-experimental correlational research design using multiple regression was discussed and definitions for frequently used terms were provided. I concluded the chapter with a discussion of the assumptions, scope, and significance of the study. In the review of the literature in the next chapter, I discuss the major themes of authentic leadership, project managers who exhibit authentic leadership characteristics, and the two main professional project management credentials as a factor in project success.

# Chapter 2: Literature Review

The purpose of this research study was to examine the relationship between authentic leadership in project managers and project success and whether the possession of a project management credential such as the PMP or CAPM credential by the project manager moderated this relationship. The relationship between project managers who are authentic leaders and project success—defined as meeting project budget, schedule, and scope objectives—is not known. The correlation between *positional* leaders who exhibit authentic leadership and prosocial employee behaviors and organizational success is well documented (Bamford et al., 2013; Gill, 2012; Lanzoni & Meirelles, 2011; Leroy et al., 2012; Peus et al., 2010). The project manager role is one in which the focus is to lead people to accomplish project and organization objectives, even though the connection between leading others and project success has not been the focus of previous research (Lloyd-Walker & Walker, 2011).

The literature review in a research study is a way to establish the direction in the investigation of a topic through different forms of gathered information (Hart, 2005). This literature review contains major themes identified in research regarding authentic leadership as a component of organizational trust and commitment, follower performance, and as a positive influence on business practices. The review also contains the influence of the project management credential on project success, and whether the PMP or CAPM credentials are factors in successful projects undertaken by project managers who are also authentic leaders. The organization of the literature review

consists of the literature search strategy, theoretical foundation, review of each variable, and summary.

## Literature Search Strategy

Multiple database sources and key search terms were used in this research. The databases accessed through the Walden University library included: Business Source Complete, ABI/INFORM Collection, Emerald Insight, SAGE Journals, ScienceDirect, SAGE Stats, Academic Search Complete, ProQuest Central, PsycINFO, Computers and Applied Sciences, Directory of Open Access Journals (DOAJ), Dissertations and Theses at Walden University, Expanded Academic ASAP, Mental Measurements Yearbook with Tests in Print, ProQuest Dissertations and Theses Global, PsycARTICLES, PsycINFO, PsycTESTS and Health and Psychosocial Instruments Simultaneous Search, SAGE Research Methods Online, and SocINDEX with Full Text. The key search terms and combinations of search terms included: *Authentic leadership, transformational leadership, transactional leadership, positive leadership, project, project management, PMO, project success, project performance, project triple constraint, project management professional, PMP, certified associate in project management, CAPM, Authentic leadership+projects, authentic leadership+project success, authentic leadership+ project performance, authentic leadership+project manager, authentic leadership+informal leader, project manager+leadership, project manager+project success, project manager or certified associate in project management* and *PMP or CAPM+project performance, project manager or certified associate in project management* and *PMP or CAPM+success, project manager or certified associate in*

*project management* and *PMP or CAPM+project success,* and *project manager or certified associate in project management* and *PMP or CAPM+project performance*.

Sources for the literature review included peer-reviewed journals, books, dissertations, websites, and instruments that published specific research regarding authentic leadership, authentic leadership and positive employee outcomes, leadership capabilities in project managers, and project manager leadership as a factor in project success. The literature review included seminal literature from the years 1900 to 2012 and included the origins of authentic leadership theory and its relation to other non-transactional leadership and positive leadership theories. The literature review also encompassed recent peer-reviewed sources from the years 2012 through 2018 focused on employee outcomes and organizational success in entities with positional and nonpositional authentic leaders, including project managers. A gap in the research exists concerning the relationship between role-based authentic leadership in project managers and project success; this gap was addressed by the utilization of multiple sources of information regarding positive leadership models in both formal and nonpositional leaders.

## Theoretical Foundation

Abend (2008) noted theories are important to explain constructs or conditions and to advance knowledge in an area. There are several theories central to understanding the relationship between authentic leadership, project managers, professional project management credentials, and project success. Authentic leadership theory is key in understanding how authentic leaders are true to themselves, whether they are titled

leaders or informal leaders in an organization. The theories foundational to project management are also central to understanding these relationships and social identity theory is critical in the investigation of the relationship between authentic leadership in project managers and project success.

Understanding how positional leaders differ from nonpositional leaders such as project managers is important in the investigation of the relationship between authentic leadership in project managers and project success. Nonpositional leaders do not have formal leadership titles in an organization. Formal or positional leadership classifications may include any executive, supervisory, or managerial position with an organization. Lloyd-Walker and Walker (2011) and McCrimmon (2005) noted nonpositional leaders rarely have formal authority over others in an organization and occupy job classifications that are outside of management hierarchy. White (2015) suggested positional leadership is enacted from the perceived authority of those at the executive levels of the organization, while nonpositional leadership "has to do with making an impact through leading by example and cultivating influence through action, impact, and supportive behavior. Nonpositional leadership is *doing*, rather than *holding* a title" (p. 8). Nonpositional leaders are organization members without formal title or authority who influence other organization members through their activities.

Nonpositional leadership is different than positional leadership. Nonpositional leaders do not occupy formal leadership positions such as chief executive officer or manager and may have a wide range of organizational classifications such as executive assistant, senior software developer, or project manager. González (2010) noted

nonpositional leaders are typically focused on a defined set of tasks or issues, rather than a wide range of initiatives or goals as might be expected with more formal leadership positions. White (2015) noted nonpositional leaders positively influence others within the organization, regardless of where they rank within the organizational structure. González also suggested nonpositional leaders effect and inspire others as peers rather than as titled leaders of an organization. Nonpositional leaders are often found outside of formal leadership roles and may have different priorities and focus.

Nonpositional leadership is an important component of achieving organization objectives and as well as leadership development. Dugan (2006) noted the importance of leadership involvement as nonpositional leaders as well as positional leaders in contributing to the achievement of greater community needs in in a study about leadership development within the context of the social change model, and McCrimmon (2005) noted nonpositional leaders are often the initiators and supporters of new processes and ideas and may be viewed as thought leaders in achieving organizational goals. In a study about selection of the appropriate participatory leadership model on a college campus, Kezar (2001) suggested the need for diversity in the demographics of leaders as well as the formal place within leadership hierarchy in order to achieve participatory, inclusive leadership. Dugan, Komives, and Owen (2006) noted the importance of nonpositional leadership roles to connecting leadership theory to practice in a study of leadership development in multiple higher education institutions. Both positional and nonpositional leaders are necessary ingredients in developing leaders and meeting organizational goals.

## Authentic Leadership Theory

Authentic leadership theory is a foundation of several positive leadership models (Avolio et al., 2004; Klenke, 2007; Shamir & Eilam, 2005; Toor & Ofori, 2008). Avolio and Gardner (2005) noted positive psychology, sociology, and education as the underpinnings of authentic leadership theory. Walumbwa et al. (2008) noted authentic leaders exhibit "balanced processing, internalized moral perspective, relational transparency, and self-awareness" and noted these behaviors were expressions of components of authenticity (p. 6).

**Authenticity.** Though authentic leadership as a leadership model is relatively young, the foundational construct of authenticity is fixed in philosophy and psychology and may be traced back to early Greece (Avolio & Gardner, 2005). Rather than a focus on the direct influence of a leader over others, Kernis (2003) noted: "Behaving authentically means acting in accord with one's values, preferences, and needs as opposed to acting merely to please others or attain rewards or avoid punishments through acting falsely" (p. 14). Klenke (2007) echoed this notion and expressed self-acceptance "and remaining true to one's self" as the foundational concepts of authenticity (p. 71). Avolio and Gardner suggested authentic persons are self-aware and are not specifically concerned with how others may wish them to think or behave. Individuals who are authentic function in alignment with their values and beliefs (Walumbwa et al., 2008).

Novicevic et al. (2006) noted leaders who are stable in their sense of self could positively impact those around them during times of upheaval and change in organizations. The literature suggests authenticity has dual meanings; the philosophical

meaning focusing on an individual's moral virtues and the choices that they make, and the psychological meanings focusing on individual traits or states and identity (Novicevic et al.). Bunker (1997) described the expression of vulnerability—what may be construed as authenticity—as a tool for leaders to use in connecting with followers.

**Authentic leadership.** Walumbwa, Luthans, Avey, and Oke (2011) suggested authentic leadership is more than a leadership style or model and authentic leader behaviors are an expression of alignment between their actions and their core values. Authentic leadership is defined as

> . . . a pattern of leader behavior that draws upon and promotes both positive psychological capacities and a positive ethical climate, to foster greater self-awareness, an internalized moral perspective, balanced processing of information, and relational transparency on the part of leaders working with followers, fostering positive self-development. (Walumbwa et al., 2008, p. 94)

Avolio et al. (2004) noted authentic leadership is a foundation for other positive leadership models such as transformational and ethics-based leadership and may include both directive and participative leadership styles. Kinnunen, Feldt, and Mauno (2016) suggested authentic leadership differs from other forms of leadership in that the emphasis of authentic leaders is on the growth of those they are leading and not on transforming followers into leaders; authentic leaders lead by the example of their character and values. It is the emphasis on knowing one's self and modeling positive behavior and values to followers that differentiates authentic leadership from other leadership theories (Ilies, Morgeson, & Nahrgang, 2005).

An important component of authentic leadership is a leader's consistency of behaviors and beliefs. Shamir and Eilam (2005) differentiated authentic leaders from non-authentic leaders by noting an authentic leader's actions are in line with their moral standard, regardless of the content of those values. The ability to be self-aware, exhibit balanced processing, have a clear moral compass, and communicate with relational transparency are authentic leadership factors encouraging a "positive organizational climate," according to (Woolley et al., 2011). Gardner, Cogliser, Davis, and Dickens (2011) concluded in their examination of the authentic leadership literature that authentic leaders govern according to their beliefs and values.

## Project Management Theory

**No single theory of project management.** The research regarding project management theory is minimal. Morris (2004) noted the literature does not reveal agreement regarding a theoretical framework for project management, but suggested systems theory may be the approach closest to a project management theory. Morris noted while project management as a practice encompasses technical and business skills, it is the inability to repeat and predict behaviors of people—as with management and other psychological or sociological practices— that creates a challenge in developing a single theory of project management. Koskela and Howell (2002) also concluded there is no defining theory of project management. Koskela and Howell further suggested the accepted theoretical foundations of project management include theories of project and management that have not been adequately validated.

**Multiple foundational theories of project management.** Starkweather and Stevenson (2011) described project success as the measures of budget, scope, and schedule components. Project management practice is expressed by more than the capacity of the project manager to attain mechanical skills necessary to achieve schedule, scope, and budget success. Bredillet (2008) noted nine potential theoretical areas in which project management schools of thought have been influenced by other theoretical constructs such as systems theory, contingency theory, and leadership theory. Bredillet described these areas as the "optimization, modeling, governance, behavior, success, decision, process, contingency, and marketing" schools of thought (p. 4). Starkweather and Stevenson suggested the volume of theoretical viewpoints related to project management research is an indicator of how the profession of project management has grown from a set of technical practices prevalent in the engineering and construction industries into "a form of work organization utilized in all industries and sectors of government" (pp. 33-34).

## Social Identity Theory

Understanding social identity theory may help in understanding the relationship between authentic leadership, project management, and project success, irrespective of leadership style in a theoretical framework. Klenke (2007) and Toor and Ofori (2008) suggested the attributes an authentic leader exhibits—self-awareness, relational transparency, moral standards, and balanced processing of information—may be present in multiple leadership theories, including transactional, transformational, and participative leadership styles. While leadership theories explain the leadership style and

skills of leaders, Avolio and Gardner (2005) noted leader self-awareness and how the leader is perceived by followers as focal points of authentic leadership. In my research study, the authentic leaders were project managers and the followers were the project team.

**Social identity theory and group membership.** Turner and Oakes (1986) noted the elements of a person's social identity may help others in understanding how membership in a group impacts a person intellectually and emotionally and is important in explaining intergroup behavior in followers. Complex relationships and interactions between project team members and others in the workplace may be explained in part by social identity theory, as well as the effect the team or workgroup has on employees. To some degree, a strong identification with a workgroup influences an employee cognitively and emotionally, and may impact behavior (Van Dick et al., 2004; Van Knippenberg, 2000). Van Dick et al. (2005) noted a correlation between those employees with a strong identification with a workgroup and positive employee outcomes such as increased employee motivation and organizational trust and commitment. Ulrich, Wieseke, and Van Dick (2005) suggested workgroup identification may influence employee job satisfaction during a major organizational change event that is often the result of large enterprise projects.

**Social identity theory and job satisfaction and performance.** Van Dick, Ullrich, and Tissington (2006) noted an employee's social identity may influence their thoughts, feelings, and actions more than a change event or other outside circumstances. An authentic leader may be ideally placed to directly and indirectly effect social identity

in followers because of the leader's self-awareness and comfort with who they are. This influence is important in project teams; these teams often feature employees from different parts of the organization that must work together to accomplish both project success and organizational goals. Authentic leaders are differentiated from other types of leaders in part because of their capacity to identify and understand the social identities of their followers, even while understanding and accepting their own personal and social identities (López, Alonso, Morales, & León, 2015).

**Social identity theory and project management.** Social identity is an important component of the project team. PMI (n.d.) noted projects are temporary and unique endeavors with defined scope, resources and goals and the human resources that work to achieve project goals may consist of members from a single area or the project team may be drawn from diverse parts of the organization, each with their own processes, procedures, and culture. Cicmil (2006) suggested that projects are interactive and cooperative efforts between group members at all levels, and may be viewed as a "*social conduct*, defined by history, context, individual values and wider structural frameworks" (p. 676). Achievement of project goals may be tied to the degree to which the project manager and project team identify as a group working toward a common goal (Hirst, 2009) and Chevrier (2003) noted both project teams and project managers develop a sense of identity and definition from participation in the project in which they are engaged. Understanding the social identity within the project team is important for project managers and the project team.

**Summary.** Authentic leadership as a leadership model is only a few decades old, but the foundational elements of authentic leadership theory are well grounded. Authentic leadership theory has its origins in sociology, positive psychology, and education (Avolio & Gardner, 2005). Authentic leadership is built from the foundational construct of authenticity and the Greek philosophical notion of self-understanding and acceptance (Klenke, 2007). Walumbwa et al. (2011) and Kinnunen et al. (2016) have suggested authentic leadership reflects synchronicity between the principles a leader holds and their actions. Woolley et al. (2011) noted leaders who exhibit open and transparent communication, have an internalized moral code, demonstrate self-awareness, and practice balanced processing encourage organizational positivity in followers.

Morris (2004) and Koskela and Howell (2002) noted there does not appear to be agreement in the literature as to an overall theory of project management. Bredillet (2008) suggested project management theories have as their foundation constructs such as systems theory, contingency theory, and leadership theory. Morris noted it is the human side of project management that makes repeatability and predictability challenging regarding identification of a central theory of project management.

Social identity theory may be used to understand the relationship between authentic leaders and their followers, including between project managers and the project team. Turner and Oakes (1986) noted an individual's social identity might help in understanding the group influence on that individual, such as the social identity of the project manager within the project team. How an employee identifies within a workgroup influence employee performance and motivation (Van Dick et al., 2005). During times of

great change in an organization, an individual's emotional state, motivation, and performance may be most influenced by their social identity (Van Dick et al., 2006).

## Literature Review

The literature does not include specific research examining the relationships between authentic leadership in nonpositional leaders such as project managers and organizational success. This study assisted in addressing the gap in the research by investigating the relationship between project managers who are authentic leaders and project (organizational) success. The research regarding the independent variable *authentic leadership*, dependent variable *project success,* the and the moderating variable *professional project management credential* as it relates to project success are discussed in this section.

## Historical Overview

### Authentic Leadership

Research indicates authentic leaders are characterized by an ability to understand and accept themselves and how they relate to others. Avolio and Gardner (2005) noted genuineness as a primary factor of authentic leaders, as well as being comfortable with themselves as human beings. The results of another study (Walumbwa et al., 2008) suggested this authenticity is not only a reflection of how authentic leaders perceive themselves in relation to followers, but it also encompasses a pattern of behavior and self-regulation by the authentic leader. In the creation of the ALQ, Walumbwa et al. (2011) noted characteristics of authentic leaders include openness and transparency in

communication, balanced processing, a set of moral standards, and self-awareness. Authentic leaders are comfortable with themselves as people and as leaders.

The literature suggests a relationship between authentic leadership and organizational trust, commitment, and feelings of enablement in followers. Valsania, Leon, Alonso, and Cantisano (2012) noted in a study examining the relationship between authentic leadership and positive actions taken by an organization that organizational behaviors and culture are reflective of the behaviors and attributes of authentic leaders. In the development of an authentic leadership framework, Avolio et al., (2004) noted the positive influence authentic leadership has on follower attitudes, behaviors, organizational commitment, and performance. Toor and Ofori (2008) indicated authentic leaders positively influence those around them by establishing a sense of shared trust and relationships. Authentic leaders set the organizational tone in leading followers by example.

The correlation between authentic leadership and affirmative follower outcomes crosses industry and cultural lines. Walumbwa et al. (2008) noted in their development of an authentic leadership measure an ethical and positive environment and positive behaviors in followers are correlated with the actions and characteristics exemplified by authentic leaders. Clapp-Smith, Vogelsang, and Avey (2009) found leaders and followers demonstrated increased levels of trust, performance, and positive psychological capital in organizations with authentic leaders, particularly those organizations focused on retail groups. The relationship between authentic leadership with positive and ethical follower behaviors is also found in closed professional organizations such as the military and may

include such constructs as moral courage that mediate this relationship, as noted in research by Hannah et al. (2011). A study of public health workers in South Africa found authentic leadership predicts increased optimism and organizational trust in employees.

**Project Success**

Project success—as with the concepts of individual and organizational success—appears to be subjective. Research in factors influencing project success suggested though project success is an idea frequently referenced in project management sources, little consensus exists as to an exact definition of project success (Cooke-Davies, 2002; Pinto & Slevin, 1988). Pinto and Slevin further noted project success is an ambiguous and subjective term in their study of project lifecycle phases and success criteria; Pinto and Slevin suggested the schedule, budget, and scope (performance) are often used as measurements of project success because they offer an objective dimension for project assessment. The study of project success factors in Slovenia, Palcic, Buchmeister, and Brezocnik (2012) noted projects involve many complex factors and many different approaches for assessing project success have been developed over time. Though the concept of project success is prevalent in the literature, Ika (2009) suggested a uniform definition of project success has been elusive.

The success or failure of projects is important to organizations, regardless of the definition and measurement of project success or failure. The PMI (2015) noted the work of an organization might consist of focused, temporary work—projects—to achieve organization objectives. Projects are important to organizations; Toor and Ofori (2008) noted an organization's survival might depend on the success of its projects. Project

success is an important factor in the global economy as well and the PMI (2017) reported for every $1 billion U.S., $97 million U.S. is wasted because of unsuccessful projects.

Though the activities of project management have existed for many years, the challenge of identifying a standardized definition of project success is not new. Haughey (2014) noted the origins of project management are found as far back as 2570 BC with the building of the Great Pyramid of Giza; its completion may have been the primary measure of project success. Fondahl (1987) and Haughey noted modern project management as a practice began in the 1950s through industry and the Department of Defense and success factors focused primarily on common constraints of projects, such as budget, schedule, and performance. Judgev and Müller (2005) described project success as concentrated historically on the factors of schedule, cost, and scope (performance or quality). Barnes (1988) and Palcic, Buchmeister, and Brezocnik (2012, p. 37) noted these variables of time, cost, and scope as mechanisms to measure project success are historically known as the "Iron Triangle."

The constraints of schedule, budget, and scope are common factors in the measurement of project success, but there does not appear to be a consensus in the literature beyond these factors to define project success. Pinto and Slevin (1987) noted in their development of a framework for defining project success there is much research regarding critical success factors for successful project implementation, but many of the processes around these success factors were theoretical. In a later study, Pinto and Slevin (1988) suggested there were eight critical success factors in project success and their importance changed at different times over the life cycle of the project. Shenhar and Levy

(1997) examined data from 127 different projects with a focus on success factors and suggested a universal multidimensional framework of efficiency, customer impact, commercial achievement, and planning for future events as a mechanism for implementing projects and assessing project success. Baccarini (1999) suggested a project success logical framework consists of product success (encompassed by the project objectives) and successful management of inputs and outputs to the project.

The relationship between project manager leadership style and project success is not well known. In their study on project manager leadership and project success Müller and Turner (2007) suggested the relationship between project success and project manager leadership—whether the project manager has a professional project management credential or not—is represented in the literature but has historically not shown a project manager's leadership style is related to project success. In their literature review focused on success factors and project success, Turner and Müller noted a general manager's leadership style and capabilities had an influence on organizational success while the project manager's leadership style and capabilities had little or no influence (or had not been adequately studied) on organizational *or* project success. In the development of a framework for project leadership, Ssegawa (2015) suggested project leadership influences project success only through the successful completion of project tasks. There has been research on the relationship between project manager leadership and project success, though this relationship does not appear to be strong.

Historical research regarding authentic leadership in project managers does not seem to have been represented in the literature, given that authentic leadership as a

leadership model is but a few decades old. While Rollinson (2005) noted there had been studies exploring the relationship between transactional as well as transformational leadership approaches and their influence on project success, Lloyd-Walker and Walker (2011) suggested a different method of project leadership is needed in the 21st century is needed for project success. DuBois et al. (2015) noted rather than a specific leadership style used by project managers, emotional intelligence, and management capabilities may be better predictors of project success. This study addressed the gap in the research concerning the relationship between project manager authentic leadership competencies and project success.

In summary, Lloyd-Walker and Walker (2011) noted authentic leadership as a leadership model has existed only since the 1990s. Authentic leadership is a repeating set of leader behaviors encouraged by positive psychology and an ethical environment (Valsania et al., 2012). The tenets of authentic leadership include balanced processing, self-awareness, an internalized moral perspective, and relational transparency. The themes revealed in the literature include a relationship between authentic leadership and supporter organizational trust, commitment, performance, and organizational achievement.

Haughey (2014) noted contemporary project management practice began in the 1950s and the primary measures of project success were budget, schedule, and performance (scope). The term *project success* is subjective and open to interpretation based on many elements (Ika, 2009; Palcic et al., 2012; Pinto & Slevin, 1988). Though research has indicated there are many factors potentially involved in successful projects,

there has not been consensus in the literature as to what constitutes project success factors beyond the traditional measurements of schedule, budget, and scope (Cooke-Davies, 2002; Ika, 2009; Lloyd-Walker & Walker, 2011; Pinto & Slevin, 1987; Pinto & Slevin, 1988). Recent literature has indicated some agreement project success should be measured by unbiased methods such as schedule, scope, and budget *and* subjective methods such as stakeholder perceptions (Hidding & Nicholas, 2017). In its updated materials, the PMI (2013) lists stakeholder satisfaction in addition to scope, schedule, and budget.

## Current Findings

The study of authentic leadership as a leadership model is young, though Avolio and Gardner (2005) noted authentic leadership has its origins in psychology and philosophy. Much of the current research in authentic leadership is focused on follower outcomes and is highlighted in the following section. The current research regarding project success is focused on the project manager's effect on the organization as well on project success.

### Authentic Leadership

The components of authentic leadership may be expressed as characteristics, expressions, or behaviors authentic leaders exhibit; in the development of the ALI Walumbwa et al. (2011) described these components as dimensions. *Balanced processing* was described as the ability to be "free of the need to engage in ego-protecting biases that distort the process of self-relevant information" (Walumbwa et al., 2011, p. 111). *Relational transparency* is a process in which a relationship with followers is built and

maintained through sincerity and trust (Valsania et al., 2012). *Self-awareness* signifies an authentic leader has a high degree of self-understanding and is aware of their impact on other people (Avolio & Gardner, 2005). Internalized moral perspective in an authentic leader denotes personal moral standards that govern leader actions, according to their values (Luthans & Youssef, 2007).

The current research emphasized these essential elements of the maturing theory of authentic leadership. In a qualitative approach to authentic leadership development, Shamir and Eilam (2005) noted elements of authentic leadership may exist within other leadership models and described authentic leaders as leaders who have formulated and are comfortable with their own life story. As in other research, Shamir and Eilam found authentic leaders are comfortable with themselves, are guided by their moral standards, are open in their communication, and operate according to their values. In research focused on characteristics of authentic leaders themselves, these core attributes of authentic leadership are present.

Research indicates the effect of authentic leadership may reach beyond organization leaders themselves and influence follower creativity and innovativeness. In a study about the influence of authentic leadership on employee innovation, Zhou, Ma, Cheng, and Xia (2014) described a correlation between authentic leadership and positive follower behaviors and characteristics such as creativity and innovation. Müceldili, Turan, and Erdil (2013) studied multiple Turkish manufacturing and service companies and noted a relationship between authentic leadership and creativity, and both creativity and authentic leadership influence innovativeness in employees. Creativity and

innovation are less tangible outcomes—but are no less important—than are employee satisfaction, organizational trust and commitment, and increased performance.

How a leader with personal moral standards who is transparent in their actions and also in their interactions with others is perceived by followers may promote trust in the authentic leader, and also in the organization. In a study examining employee identity after a merger, Ulrich et al. (2005) suggested an organization's capacity to endure and even perform well in a tumultuous commercial climate is the ability of leaders to inspire followers through the changes; trust in the organization and its leaders are key elements. Another study supported the concept of leader integrity and emphasized the importance of trust and positive feelings followers experience when they perceive their leaders to be transparent in their interactions with others and to possess a personal moral code (Walumbwa, Luthans, Avey, & Oke, 2011). Onorato and Zhu (2014) noted in a cross-industry study a leader's core ideals and truthful communication with others are critical components in developing and sustaining trust in followers. Research by Agote, Aramburu, and Lines (2016) found authentic leadership was related positively to follower trust and positive emotions during organizational change events.

In addition to trust in the organization, authentic leaders may also inspire feelings of organizational commitment in employees. Leroy et al. (2012) noted in a study of the service industry the behavioral integrity of authentic leaders adds to follower emotional and organizational commitment. Another study noted the connection between authentic leadership and organizational commitment and that positive psychological capital mediated this relationship (Rego, Lopes, & Nascimento, 2015). Research indicates trust

and commitment in the organization, as well as positive employee behaviors, may be a product of ethical leadership in organizations (Peus et al., 2010).

Authentic leaders may encourage organizational trust and feelings of job satisfaction in followers. Monzani, Ripoll, and Peiró (2014) noted an affirming relationship between authentic leaders and factors of follower organizational commitment, loyalty, and job satisfaction. In research focusing on health care professionals, Wong and Laschinger (2013) noted authentic leaders may promote feelings of job empowerment in followers, even if increased job performance does not follow job satisfaction. The relationship between ethical behaviors exhibited by authentic leaders and higher job performance in followers may be understood by the idea that followers feel authorized to act within the parameters of their jobs and this self-sufficiency influences performance and job satisfaction.

Research by Černe, Dimovski, Marič, Penger, and Škerlavaj (2014) noted followers experienced more job satisfaction if both leaders *and* followers perceived the leaders to be authentic leaders. This research was different from many authentic leadership studies regarding job satisfaction in that both leader and follower concepts of authentic leadership were studied and each set of ideas given weight. The findings of a significant relationship between authentic leadership and employee job satisfaction and team commitment were noted in another quantitative study of individual employees and employee teams (Darvish & Razaei, 2011).

If an enterprise fails to meet its financial or organizational goals, there may be little value in authentic leadership. Authentic leadership must be able to be directly

related to the effective provisioning of the goods and services an organization offers for this leadership model to have value for the organization, and this effectiveness may encompass more than profits. Since follower perceptions of leader behaviors influence the worth of authentic leadership, leaders must demonstrate positive leadership actions consistently inside and outside of the workplace. These practices include comfort with whom they are, high ethical standards, the capability to process multiple sources of information, and transparency in their communication and actions. Organization achievement may include diverse goals such financial profit, effective services, and employee satisfaction.

For example, Onorato and Zhu (2014) noted there are multiple ways to evaluate organizational effectiveness in the healthcare industry, to include financial value as well as assessment of patient care delivery and outcomes. In another study, the safety of patients and healthcare professionals in the work and treatment environments as well as increased employee trust in management and leadership entities were noted as possible contributions of authentic leader behaviors (Wong & Giallonardo, 2013). Wong and Giallonardo also suggested better patient care outcomes may be inspired by the positive actions of authentic leaders in work environments, resulting in lower organizational costs. The impact of the four dimensions of authentic leadership—self-awareness, relational transparency, moral standards, and balanced information processing—may be assessed in an organization through measurement of reduced costs and increased profits, as well as through other measures such as employee satisfaction and performance and customer satisfaction.

**Project Success**

Multiple definitions exist for what constitutes project success beyond the constraining parameters of scope, time, and budget (Cooke-Davies, 2002; Judgev & Müller, 2005; Serrador & Turner, 2015; Shenhar & Levy, 1997; Turner & Zolin, 2012). Pinto and Slevin (1988) suggested measures of project success should include other factors in addition to the success factors of schedule, cost, and scope, early in the era of modern project management. Hidding and Nicholas (2017) suggested not only is there no agreement on the factors contributing to project success, there is not complete agreement as to what entails a successful project. Research has emphasized the measurement of objective parameters such as time, cost, and scope as well as the more subjective factors of customer satisfaction or impact to the organization in recent years (Henriksen & Pedersen, 2017).

Measures of project success in recent research have focused on organization and customer impact factors. In a study conducted to identify project success and failure factors to predict stakeholder satisfaction, Turner and Zolin (2012) noted a project's success—as well as positive impact to the organization—is dependent largely on stakeholder perception of achievement of customer-focused objectives. Turner and Zolin concluded early identification of success criteria from a stakeholder's perspective would result in better business decisions during the project lifecycle, allowing decisions regarding the continuation or termination of a project to occur earlier. In this same vein, Hidding and Nicholas (2017) surveyed organizations across multiple industries about project management activities in completed information technology projects and noted

successful projects included both traditional factors of project success such as scope, time, and budget as well as value-driven measurements of project success such as value management, human relations, and architectural structure expressed early in technology projects. In both studies, the subjective measurements of stakeholder perceptions of success and stakeholder and organizational values and relationships figured prominently.

The researchers do not answer which measure for assessing project success—objective or subjective—is best. Cuellar (2010) suggested a project is successful if the objective elements of success such as schedule, scope, and cost are met; Cuellar *also* noted projects could be viewed as successful if subjective measures such as stakeholder opinion or perception are considered. The PMI (2013) recently listed stakeholder satisfaction and other factors as likely to influence project success, as well as the more common parameters of scope, schedule, and budget. Nelson (2005) also suggested objective and subjective factors are often used to assess project success, with project managers favoring scope, schedule, and budget in their determination while organizational managers often use business criteria in assessing project success. As Turner and Zolin (2012) noted in their research, ultimately the notion of project success is in the opinion of the project stakeholders.

The combination of traditional measurements of project success such as scope, schedule, and budget with other subjective factors such as stakeholder satisfaction regarding the achievement of project objectives may provide a better way for organizations to assess project success or failure. Albert, Balve, and Spang (2017) noted in a review of the literature regarding project success across multiple industries both

objective and subjective criteria may have been used in assessing project success; there did not seem to be a distinct pattern in how the criteria were chosen. Albert et al. further noted the components of the Iron Triangle—scope, schedule, and budget—are still the prevalent criteria by which project success is determined.

The research into the connection between project success and authentic leadership in project managers is minimal. Senam, Rashid, Sarkawi, and Zaini (2014) noted, however, the research regarding transformational leadership and project managers is deep, particularly in the construction industry. In a study measuring the impact of transformational leadership behavior by project managers in 107 Pakistani construction firms, Maqbool, Sudong, Manzoor, and Rashid (2017) echoed the Senam et al. conclusion there is a relationship between transformational leadership and project management competencies in project managers and project success. Authentic leadership and transformational leadership may be conceptually close to each other but are not the same thing; Avolio and Gardner (2005) noted authentic leaders are self-aware and self-regulating, and Murugesan (2012) defined transformational leadership as "a process by which leaders bring about significant positive changes in individuals, groups, teams, and organizations by using inspiration, vision, and the ability to motivate followers to transcend their self-interests for a collective purpose" (p. 6). Murugesan noted project managers are described as effective based on the success of their projects and have more successful projects when they exhibit both transactional and transformational leadership styles.

Project success is a subjective term and dependent entirely on the perceptions of project managers and stakeholders (Cooke-Davies, 2002; Judgev & Müller, 2005; Nelson, 2005; Pinto & Slevin, 1988; Serrador & Turner, 2015; Shenhar & Levy, 1997; Turner & Zolin, 2012). In their study exploring the evolution of project management as a professional practice, Morris, Crawford, Hodgson, Shepherd, and Thomas (2006) noted "certification is only meant to be a recognition that a 'professional' has mastered the knowledge (and sometimes practice) requirements of the profession" and "as a professional, one can rely on the certified person to act within the strictures of the profession and apply good professional judgement in the interests of the client or patient" (p. 714). Thomas and Mengel (2008) suggested the focus on professionalism and standardization in project management may be misplaced, as soft skills of project managers may be more important to project and organization performance (success) than the technical skills embodied by professional project management credentials. Pant and Bassam (2008) also concluded the practice of project management as a profession emphasizes the hard technical skills as represented in the professional credentials more than human skills. Crawford (2005) noted in a study of project management practitioners in three countries the link between project success and possession of a project management credential such as the PMP or CAPM has historically appeared to be primarily anecdotal and not based on empirical research concluding the relationship between project performance (success) and standards and credentials was statistically insignificant.

Starkweather and Stevenson (2011) suggested while a PMP or CAPM credential indicates an understanding and familiarity with the knowledge, skills, and capabilities of project management practice necessary to achieve project objectives, the credential alone does not guarantee project success. The possession of a PMP or CAPM credential suggests the project manager is aware of the central tenets of the body of knowledge for the profession. This awareness and familiarity is an important factor in a project manager's technical capabilities skill set in managing schedule, budget, and scope of a project and project performance. Starkweather and Stevenson further noted project managers must also demonstrate the ability to communicate to different audiences in different ways and at different levels and understand when to apply different leadership methods throughout a project lifecycle based on multiple sources of information.

## Summary and Conclusions

In this literature review, I focused on the intersection of authentic leadership, project managers, and project success to identify a gap in the research regarding authentic leadership and nonpositional leaders in an organization. The review explored the theoretical foundations of authentic leadership theory, social identity theory, and project management theory. The major themes identified during the literature review included authentic leadership as a component of organizational trust and commitment, authentic leadership as a component of follower performance, and authentic leadership as a positive influence on business practices. Additionally, the review explored the role of leadership capabilities in project managers and the link to project success.

Authentic leadership is an ethics-based leadership model developed in the 1990s whose foundations are in positive psychology and sociology (Lloyd-Walker & Walker, 2011; Valsania et al., 2012). The pattern of leader behaviors in an authentic leader includes self-awareness, relational transparency, moral compass, and balanced processing. There is a positive relationship between authentic leadership and employee organizational trust and commitment (Walumbwa et al., 2011), job satisfaction, performance (Avolio & Gardner, 2005), and behaviors (Peus et al., 2010).

Authentic leadership is positively correlated with employee and organization performance (Avolio & Gardner, 2005). Authentic leadership behaviors of open and honest communication and expression of core values are foundational to creating and maintain organizational trust (Onorato & Zhu, 2014). Follower observations of ethically based leader behaviors and openness of communication create positive feelings and trust (Walumbwa et al., 2011) and may lead to positive follower behaviors (Peus et al., 2010).

Authentic leadership behaviors may inspire job satisfaction in employees, as well as have a positive influence on business practices. Wong and Laschinger (2013) noted authentic leadership behaviors might promote a sense of empowerment in followers. In healthcare, leader effectiveness is often linked to patient outcomes, which, in turn, is linked to the fiscal values of the organization. Negative patient care results were not as prevalent with leaders who exhibited authentic leadership behaviors (Wong & Giallonardo, 2013), resulting in lower costs to the healthcare provider.

The primary measures of project success through the modern era of project management have been schedule, budget, and scope (Haughey, 2014). Beyond the

components of the Iron Triangle—scope, schedule, and budget—the research does not reveal a standard method for assessing project success, as the term *project success* is subjective (Ika, 2009; Palcic et al., 2012; Pinto & Slevin, 1988). Current research has indicated subjective measures such as stakeholder perceptions of project success should be included in project assessment as well as the traditional objective measures (Hidding & Nicholas, 2017). Project management has historically been perceived as a transactional, task-driven profession and the research has revealed there does not seem to be a correlation between project manager leadership behaviors and project success (Müller & Turner, 2007) beyond the project manager's successful execution of project tasks (Cuellar, 2010; Ssegawa, 2015); the possession of a PMP or CAPM credential does not appear to correlate with project success (Crawford, 2005).

The importance of leadership capabilities in project managers has had minimal coverage in the literature and a project manager's leadership behaviors have historically not been linked to project success (Müller & Turner, 2007). Ssegawa (2015) and Cuellar (2010) suggested a project manager's greatest influence on projects was through the accomplishment of project tasks and activities and not through leadership. More recently research has revealed the notion of a project manager as a strict technician is changing and Senam et al. (2014) and Maqbool et al. (2017) noted research regarding project managers and transformational leadership. Murugesan (2012) suggested project success is achieved when project managers exhibit both transactional and transformational leadership in projects. Crawford (2005) noted research does not reveal a correlation

between possession of a professional project management credential such as the PMP or CAPM and project success.

The purpose of this research was to determine the relationship between authentic leadership in project managers and project success, and whether the possession of a professional project management credential by the project manager moderates this relationship. Although authentic leadership as a leadership model is relatively young, there is a substantial body of research regarding the relationship between positional authentic leaders and positive employee outcomes. The research exploring the relationship between non-titled authentic leaders such as project managers and project success is minimal. This study was important because of the importance of project success to organizations, and the role that a project manager fills as a nonpositional leader in projects and in the organization. To address the gap in the research regarding authentic leadership in nonpositional organization leaders, a quantitative non-experimental correlational study using regression analysis was used to determine the relationship between authentic leadership in project managers and project success, and whether the possession of a PMP or CAPM credential moderates that relationship. The study used a cross-sectional design to understand the relationship between the independent variable authentic leadership in project managers and the dependent variable project success.

This research differed from previous and current research in that the study focused on project managers or those fulfilling a project manager role who are also authentic leaders, and whether there was a relationship between authentic project

managers and project success. The research on authentic leadership and its influence on followers is solid, especially considering how young this leadership model is. Nearly all the literature concerns positional organizational leaders and not those nonpositional leaders in an organization who do not have formal leadership roles. This study addressed that gap in the literature, as well as explored the relationships between project manager leadership style and project success and which of the core four elements of authentic leadership were related to project success. Additionally, the role of a moderating variable such as the PMP or CAPM and its relationship to authentic leadership in project managers and project success was explored.

# Chapter 3: Research Method

The purpose of this study was to determine the relationship between authentic leadership in project managers and project success. Also examined was whether the possession of a project management credential such as the PMP or CAPM project management credential by the project managers moderates this relationship. This chapter begins with a brief description of the research design and rationale and a description of target population, population size, sampling, and sampling procedures follow. Recruitment of participants and data collection and analysis procedures, as well as instrumentation, are described. The chapter concludes with a description of threats to internal and external validity and ethical procedures.

## Methodology

### Research Design and Rationale

The best method for understanding the relationship between leadership and project success in this research study was a quantitative non-experimental approach with a cross-sectional design. Hall (2008) suggested the purpose of a cross-sectional research design is to understand the population under study at a point in time. Hall also noted cross-sectional surveys differ from panel surveys in that panel survey respondents are followed over time and may repeatedly be surveyed, while cross-sectional survey respondents are typically surveyed only once. Johnson (2001) described correlational research as a study where the degree to which two variables are related is measured. Because this research study focused on the relationship between project managers who are authentic leaders and project success using two self-report instruments at a single

point in time, the correlational cross-section design was the most appropriate method for understanding this relationship.

The predictive variable was authentic leadership characteristics. The moderating variable was the project management credential, such as the PMP or CAPM credential. The outcome variable was project success, defined as project scope, schedule, and budget.

**Population**

The focus of this research study was on nonpositional leaders who perform project management work, either as labeled project managers or informal leaders who fulfill a project manager role. Potential participant project managers for this study were identified through Eugene and Portland chapters in Oregon, and Seattle, Washington chapter of the PMI, through the Walden University Participant Pool, and through project management groups in social media. The PMI is a U.S.-based professional association for project managers and is recognized as the principal project management organization in the world (Pant & Bassam, 2008). The PMI provides instruction, education, research, professional standards, and governance by and for its members (Pant & Bassam, 2008), as well as a credentialing program in which over 800,000 PMP credentials have been granted worldwide (PMI, 2018). Because the PMI is a large global project management organization (PMI, 2018), it was reasonable to solicit participation in this research study from the PMI membership.

**Sampling and Sampling Procedure**

Hardon, Hodgkin, Fresle, and World Health Organization (2004) noted the purpose of a sampling strategy for quantitative studies is "to measure variables and generalize findings obtained from a representative sample from the total population" and define a representative sample as "one that has all the important characteristics of the population from which it was drawn" (p. 60). Because this research study was a quantitative non-experimental correlational study involving a target population with a specific desired role or profession (project managers), I used nonprobability sampling and focused on a sample of the population that are project managers or in a project manager role. The specific sampling strategy was purposive sampling; Trochim (2006) noted that purposive sampling allows a sample to be quickly targeted according to specified criteria.

The sampling frame for this quantitative non-experimental correlational study consisted of PMI members in the Portland and Eugene, Oregon chapters and the Seattle, Washington chapter, participants in the Walden University Participant Pool, and members of project management groups in the LinkedIn social media platform. The sampling frame included those people who were project managers or who fulfilled the role of a project managers within their organization and who may or may not have possessed a project management credential such as the PMP or CAPM. Additional inclusion criteria included the possession of an email address and access to a device by which to respond to the web-based instruments. Over 2,100 active PMI members were considered as part of the sampling frame (PMI Portland Chapter, 2018).

The sample was drawn from the membership rolls of the PMI, participants in the Walden University Participant Pool, and members of the project management groups within the LinkedIn social media platform and included people who were project managers by title in their organization or who were in (or have been in) a project manager role. Potential participants were invited via an announcement in the three chapter newsletters and through invitations posted in the Walden University Participant Pool website and LinkedIn social media platform to participate in the research study and provided a link to the web-based informed consent form and surveys used in the study. The web-based instruments were the only method for participation in the study; no paper-based surveys were available to participants.

I used an estimated medium effect size ($r = 0.40$), an alpha level of 5% ($\alpha = 0.05$) with a two-tailed test, and a power level of 85% ($1-\beta = .85$) in this study. According to Ferguson (2009), effect size allows the researcher to estimate the strength of a relationship between multiple variables regardless of the sample size and an effect size of 0.40 is adequate for expressing the magnitude of association between dependent and independent variables in correlational studies. In a similar study about information technology project success and failure factors as they relate to organizational culture, Wilfong (2014) noted an estimated medium effect size ($r = 0.49$), an alpha level of 5% ($\alpha = 0.05$), and a power level of 86% ($1-\beta = .86$). In a study regarding personality types of project managers and project success, LeBlanc (2008) used an estimated small effect size ($r = 0.15$), alpha level 5% ($\alpha = 0.05$), power level of 90% ($1-\beta = .90$).

Kadam and Bhalerao (2010) described the alpha level—a Type I error, or "false positive"—as the probability that the null hypothesis will be rejected when it is true; an alpha level between $\alpha = 0.01$ and $\alpha = 0.05$ describes the risk of falsely identifying a condition when none is present as between 1% and 5% (para. 9). Kadam and Bhalerao also suggested a power level of 80% ($1-\beta = .80$) is acceptable, and a power level of 90% ($1-\beta = .90$) should be used in large studies and when the probability of a Type I error is required to be smaller. The effect size and alpha level chosen for this study were within acceptable levels; the power level was at a more demanding level because the study was small to moderate in size.

The sample size for this study was determined utilizing the G*Power 3.1 software (see Faul, Erdfelder, Lang, & Buchner, 2007) using the effect size estimate ($r = 0.40$), alpha level ($\alpha = 0.05$), and power level ($1-\beta = .85$) noted previously. Using G*Power 3.1, the total sample size required was calculated to be 50. This calculation was cross-checked with an additional sample size calculator, Correlation Sample Size (Sample-Size.net, 2018). The sample size calculated using the Correlation Sample Size calculator required was 53. A sample size of 60 was used in this research study to increase the generalizability of the findings.

**Procedures for Recruitment, Participation, and Data Collection**

Potential participants received an invitation to participate in the study from PMI on behalf of the researcher via an announcement in the chapter newsletters, through an announcement at the Walden University Participant Pool website, and through announcements of the study on the LinkedIn social media platform. The newsletters and

website invitations contained a link to a web-based informed consent form, leadership instrument (ALQ), and project success instrument (PSQ). Potential study participants selected this link to provide informed consent and to gain access to the instruments after endorsing the consent document. Mind Garden (2007), the website that hosts the web-based survey tools, was used for respondents to provide informed consent and participate in the ALQ and PSQ surveys.

A respondent could leave the research study at any time by exiting the survey website with no penalty or debriefing procedure. Specific demographic information requested included age, gender, respondent membership in PMI (*yes* or *no*), years of experience in project management, and was found in the General Information section of the PSQ. Study participants requesting a report of the study findings provided an email address so that the report could be emailed.

**Instrumentation and Operationalization of Constructs**

Instruments were selected for use in this research study to measure the predictor variable of authentic leadership and the outcome variable of project success. The moderating variable (professional project management credential) was measured by the PSQ through self-reporting. Two instruments were located directly measuring elements encompassing authentic leadership; the ALQ measures a leader's perception of *themselves* as authentic leaders (Walumbwa et al., 2008) and the ALI, measures *follower* perceptions of authentic leadership components in leaders (Neider & Schriesheim, 2011). The instrument selected for this research study was the ALQ because the survey questions focused on self-awareness of the leader, in this case, project managers. Mind

Garden (2007) noted the ALQ is used as a tool for leadership development as well as career assessment.

The ALQ was developed by Avolio, Gardner, and Walumbwa in 2007 (Mind Garden, 2007; Walumbwa et al., 2008) and is currently published and commercially available from Mind Garden (2007). Mind Garden noted the ALQ consists of 16 questions respondents rate on a five-point Likert scale, where values range from 0 = not at all to 4 = frequently, if not always; the ALQ specifically measures the dimensions of authentic leadership, including "leader self-awareness, relational transparency, internalized moral perspective, and balanced processing" (Walumbwa et al., 2008, p. 89). The ALQ has been used in measuring the impact of authentic leadership on followers through assessment of authentic leadership characteristics in leaders across a variety of industries, including healthcare (Bamford et al., 2013; Wong & Giallonardo, 2013; Wong & Laschinger, 2013), education and training (Baron, 2016; Bento & Ribeiro, 2013; Erkutlu & Chafra, 2013), manufacturing (Roux, 2010), law enforcement (Arnatt, 2014), and technology (Sanda & Arthur, 2017).

In development and validation of the ALQ as an instrument to measure authentic leadership, Walumba et al. (2008) used confirmatory factor analysis (CFA) in multiple separate studies to demonstrate content and convergent validity among the four factors of authentic leadership. Walumba et al. noted correlation between the factors of authentic leadership and ethical leadership and factors of transformational leadership as well, supporting the findings of content, convergent, and discriminant validity; employee job satisfaction and performance were also correlated with the dimensions of authentic

leadership, confirming reliability and validity for the ALQ as a higher order authentic leadership measure. ALQ reliability and construct, convergent, and discriminant validity were generally confirmed by Neider and Schriesheim (2011), though the authors expressed concern regarding the process by which Walumba et al. (2008) determined discriminant validity.

The PSQ is an instrument created to measure project success as defined by overall project success, project budget, scope, and schedule (LeBlanc, 2008) and was selected to measure project success in this research study. There does not appear to be agreement between scholars and practitioners as to what constitutes project success outside of the constraints of scope, schedule, and budget (Cooke-Davies, 2002; Ika, 2009; Pinto & Slevin, 1988) and few instruments for directly measuring project success. The PSQ consists of five close-ended questions administered to project managers to measure project success (selection choices include *Successful* or *Not Successful*) and basic respondent information (including PMI membership, credentials, years of experience, and whether the respondent wished to receive a copy of the study results); LeBlanc noted the instrument is available free of charge for use in this study. No specific evidence of reliability and validity of the PSQ were noted.

**Data Analysis Plan**

The software used for analysis of the data in this research study were G*Power 3.1 (Faul et al., 2007) and IBM SPSS Statistics Version 25. G*Power 3.1 was used to determine the sample and effect sizes for this research study, and IBM SPSS was used to determine the descriptive statistics and to understand the relationship between the

predictor variable *authentic leadership in project managers* and the outcome variable *project success* (multiple regression analysis). The research questions for this study are:

Research Question 1: What is the relationship between authentic leadership in project managers and project success, defined as meeting project scope, schedule, and budget objectives?

$H_0$1: Authentic leadership characteristics in project managers as measured by the ALQ do not predict project success as measured by the PSQ.

$H_A$1: Authentic leadership characteristics in project managers as measured by the ALQ predict project success as defined by the PSQ.

Research Question 2: Does a PMP or CAPM credential moderate the relationship between authentic project managers and project success, defined as meeting project scope, schedule, and budget objectives?

$H_0$2: A PMP or CAPM credential does not moderate the relationship between authentic project managers and project success as defined by the PSQ.

$H_A$2: A PMP or CAPM credential moderates the relationship between authentic project managers and project success as measured by the PSQ.

In this research study, the research question focused on the relationship between the predictor variable authentic leadership in project managers and the outcome variable project success; there were no potential covariate or confounding variables identified. According to Laerd Statistics (n.d.), "linear analysis assesses the linear relationship between two continuous variables to predict the value of a dependent variable based on the value of an independent variable" (para. 1). Authentic leadership is measured in four

dimensions—balanced processing, ethical/moral, transparency, self-awareness—using a five-point Likert scale and this variable was categorical (ordinal) and was converted to a continuous variable; project success was measured in four dimensions—overall project success, budget, schedule, scope—using an ordinal scale (e.g., *Successful* or *Not Successful*) and was also converted to a continuous variable. The moderating variable *professional project management credential* was also a categorical variable and was converted to a continuous variable. Therefore, the statistical test that best fit the objectives of the research questions was multiple regression analysis because through its use the researcher can predict the outcome of the dependent variable (Laerd Statistics, n.d.).

Baron and Kenny (1986) described a moderator as "a variable that affects the direction and/or strength of the relation between an independent or predictor variable and a dependent or criterion variable" (p. 1174). This study evaluated the impact of the professional project management credential (moderating variable) on the strength of the relationship between authentic leadership in project managers and project success. In this study the independent, dependent, and moderating variables were all categorical and the moderating variable was also an independent variable. Baron and Kenny suggested that the appropriate analytic test is a 2 x 2 ANOVA for this circumstance.

Field (2013) suggested sample characteristics, overall model fit, and parameter estimates are factors that may be used to interpret the results of the study. The data Information table in SPSS provides a way to verify the numbers for the data are correct (Field, 2013; Laerd Statistics, n.d.). Assuming an unsaturated model, the likelihood ratio

and Pearson Chi-Square tests were used to determine the fit of the study data to the model, with $p>.05$ as the desired result (Laerd Statistics, n.d.). The parameter estimates table in SPSS indicated the statistically significant estimate, standard error, Z score, significance, and the top and bottom limits of the 95% confidence interval (Field, 2013).

## Threats to Validity

Campbell and Stanley (1963) described external validity in terms of the "populations, settings, treatment variables, and measurement variables" (p. 5) to which the results of a study can be generalized or represented. Campbell and Stanley noted the threats to external validity focus on representativeness and include the effects of testing, selection bias, the structure or arrangement of the study, and the effects of multiple or prior testing. In this research study, data will be evaluated to determine the relationship between authentic leadership in project managers and project success. Project managers and those who fulfilled a project manager role who were members of the PMI Portland and Eugene, Oregon and Seattle, Washington PMI chapters, as well as participants meeting the inclusion criteria in the Walden University Participant Pool or who responded to invitations to participate from the project management groups in the LinkedIn social media platform comprised a representative sample of project managers and a purposive non-probability sample was used to select participants for this study. All participants received the same web-based surveys as part of the study and were measured only one time for the study.

Internal validity denotes a "causal relationship between the independent and dependent variable," according to (McLeod, 2013, para. 4); Campbell and Stanley (1963)

defined internal validity as the degree of rigor associated with the study itself, or how well a study is done. Campbell and Stanley noted threats to internal validity focus on the structure of the study and include history between measurements, the passage of time (maturation) during the study, the effects of multiple testing, instrumentation, sloppy statistics, selection bias, loss of study participants during the study, and selection-maturation interaction. In this research study, respondents were measured one-time using instruments that are both valid and reliable and were randomly selected from the set of members of the Portland, Eugene, and Seattle PMI chapters, respondents from the Walden University Participant Pool, and project management groups on the LinkedIn social media platform. These conditions neutralized the time, multiple testing, and selection bias threats to internal validity.

## Ethical Procedures

Agreements to gain access to potential study participants were obtained through email addressed to the PMI Portland, Eugene, and Seattle Chapters and an invitation to participate in the research study was on the Chapter websites. Informed consent for potential participants aged 18 years or older was obtained through the Mind Garden (2007) website and participants informed their participation was both voluntary and confidential and access to the survey forms by participants was accessible only when informed consent had been obtained. Participants did not participate in the research study if they did not grant consent and informed that could withdraw from the study without consequence at any time during data collection by leaving the survey website. The possibility existed members of a vulnerable class may have chosen to participate in this

research study as the participants are anonymous; students, pregnant women, children, prisoners and other members of a vulnerable class were not specifically targeted as part of the sample frame for this research study, and the study posed no increased risk to such participants. I used the Standard Application for Research Ethics Review by Walden University Institutional Review Board Requesting Approval To Conduct Research Version 2015 application, as well as the Research Ethics Planning Worksheet (Walden University, 2017), and I received all required permissions to proceed with the study before beginning data collection. The Walden University Institutional Review Board approval number was 02-05-19-0018046.

Data for this research study were confidential and anonymous and in a digital format stored in password-protected files on secure servers. While data collected were confidential and anonymous, if a study participant requested a copy of the study results be emailed to them their participation in the study was no longer anonymous. Data were retained and backed up by the researcher in a secure, encrypted form; only the researcher will have direct access to the data files for three years.

## Summary

In this quantitative correlational research study I focused on the relationship between authentic leadership in project managers and project success, with focus also on whether possession of a professional project management credential such as the PMP or CAPM moderated the relationship. The study sample consisted of the PMI Portland, Eugene, and Seattle Chapter members, Walden University Participant Pool participants, and participants from project management groups on the LinkedIn social media platform

who were project managers or who have fulfilled a project management role in the past; participation in the study was voluntary, anonymous, and the survey responses were confidential. Data collection was through completion of the web based ALQ to measure authentic leadership attributes of project managers and the PSQ to measure project success. Informed consent and survey instruments were self-reported and completed through the survey website. Data from the research study were encrypted and will be retained for a minimum of three years and available only to the researcher.

# Chapter 4: Results

The purpose of this study was to determine if there was a relationship between authentic leadership in project managers and project success. Also examined was whether the possession of a PMP or CAPM project management credential by project managers moderated this relationship. The ALQ (Walumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008) was used to measure authentic leadership characteristics and the PSQ was used to measure project success (LeBlanc, 2008). Multiple regression analysis was used to predict the effect of authentic leadership and possession of a project management credential by nonpositional leader project managers in the project manager population.

The research questions and hypotheses for the study were:

Research Question 1: What is the relationship between authentic leadership in project managers and project success, defined as meeting project scope, schedule, and budget objectives?

$H_0$1: Authentic leadership characteristics in project managers as measured by the ALQ do not predict project success as measured by the PSQ.

$H_A$1: Authentic leadership characteristics in project managers as measured by the ALQ predict project success as defined by the PSQ.

Research Question 2: Does a PMP or CAPM credential moderate the relationship between authentic project managers and project success, defined as meeting project scope, schedule, and budget objectives?

$H_0$2: A PMP or CAPM credential does not moderate the relationship between authentic project managers and project success as defined by the PSQ.

$H_A2$: A PMP or CAPM credential moderates the relationship between authentic project managers and project success as measured by the PSQ.

This chapter contains an examination of the data collection activities performed in the research study, including time frame, response rates, changes made to the data collection plan, and demographic characteristics of the sample. The chapter also includes the results of the data analysis, including descriptive statistics that describe the sample.

## Data Collection

Data collection for the study was anonymous and initially involved an invitation to participate in the study from PMI on behalf of the researcher via an announcement in the Walden University Participant Pool, in three PMI chapter newsletters, and by announcement in project management groups on the LinkedIn social media platform; the PMI Chapters included the Portland and Eugene chapters in Oregon and the Seattle chapter in Washington. Both the Walden University Participant Pool and the PMI newsletters contained a link to a web site hosted by Mind Garden (2007) containing the informed consent form, leadership instrument (ALQ), and project success instrument (PSQ). Study participants selected this link to provide informed consent and to gain access to the instruments after endorsing the consent document, and were informed through the form that they could exit the research study at any time by exiting the survey website with no penalty or debriefing procedure. Specific demographic information requested included respondent age, gender, membership in the PMI (*yes* or *no*), years of experience in project management, and certification in project management (*yes* or *no*). Study participants could request a report of the study findings by providing an email

address so that the report could be emailed.

The data collection period was scheduled to last 30 days and began in March 2019. At the beginning of April 2019 only 27 responses had been received on the Mind Garden website. The Walden University Institutional Review Board approved a request to add an announcement and invitation to participate in the study on the Project Managers group online bulletin boards hosted by the LinkedIn website in April 2019 to attract additional participants, whether or not they were members of the PMI; no other changes to the recruitment plan or data collection procedures were requested. The recruitment period was extended through the end of August 2019 to allow for the required number of participants to respond, with at least 50 responses needed to meet the sample size requirements. The final response rate was 121 participants with 61 completed surveys (50%); SPSS requires missing data to be filled in with zeroes—which would skew the results in the PSQ—so to avoid this, responses with incomplete data were discarded.

**Demographic Summary**

Demographic data collected from participants included age, gender, PMI membership, certification (also a moderating independent variable), and years of project management experience. There were two categories of demographics: gender and age responses, which are summarized in Table 1, and project management responses, which are summarized in Table 2. Out of the 61 complete survey responses, 47% were male (*n* = 29) and 52% were female (*n* = 32). Additionally, 11.5% of respondents were 21-35 years old (*n* = 7); 44.3% were 36-50 years old (*n* = 27); 37.7% were 51-65 years old (*n* = 23); and 6.5% of the respondents were 65 years or older (*n* = 4).

Table 1

*Survey Respondents by Age and Gender*

| | Male ($n$ = 29) | | Female ($n$ = 32) | | Total ($n$ = 61) | |
|---|---|---|---|---|---|---|
| Age | Count | Percentage | Count | Percentage | Count | Percentage |
| 21-25 years of age | 2 | 6.9% | 5 | 15.6% | 7 | 11.5% |
| 36-50 years of age | 16 | 55.2% | 11 | 34.4% | 27 | 44.3% |
| 51-65 years of age | 10 | 34.5% | 13 | 40.6% | 23 | 37.7% |
| Over 65 years of age | 1 | 3.4% | 3 | 9.4% | 4 | 6.5% |

Of the 61 respondents, 32.8% were PMI members ($n$ = 20) while 67.2% were not ($n$ = 41), and 57.4% of the respondents did not hold a certification in project management ($n$ = 35) while 42.6% of the respondents were certified in project management ($n$ = 26). Years of project management experience included 16.4% of respondents with 0-5 years of project management experience ($n$ = 10); 27.8% of respondents with 6-10 years of project management experience ($n$ = 17); 32.8% of respondents with 11-20 years of project management experience ($n$ = 20); and 23.0% of respondents with over 20 years of project management experience ($n$ = 14). The distribution of PMI membership and project management certification data is summarized in Table 2.

Table 2

*PMI Membership and Certification by Years of Experience*

| | Years of project management experience | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 0-5 years ($n$ = 10) | | 6-10 years ($n$ = 17) | | 11-20 years ($n$ = 20) | | Over 20 years ($n$ = 14) | |
| Variable | Count | Percentage | Count | Percentage | Count | Percentage | Count | Percentage |
| PMI membership | 2 | 2% | 1 | 6% | 9 | 45% | 8 | 57% |
| Certification | 1 | 1% | 4 | 24% | 13 | 65% | 8 | 57% |

The sampling strategy for this quantitative non-experimental correlational research study was focused on a specific target population: project managers or people who are or have been in a project manager role. The study was designed to be anonymous; so that sample size requirements were met, recruitment for participants occurred through PMI newsletters, project management groups in specific social media platforms, university research participant pool, and word-of-mouth. Small (2009) noted nonprobability purposive sampling is not designed for large and complex studies where representativeness or generalization is the focus; this sampling strategy is more often used in smaller qualitative studies where the focus is on understanding social experiences or situations. The inclusion criteria and recruitment conditions of the study were specific but not designed for broad generalization to the entire nonpositional leader population; the small response rate of this study was not proportional to the project manager

population targeted in the recruitment efforts, which could have exceeded 300,000 people.

## Results

Two instruments were selected for use in this research study, with the ALQ used to measure the predictor variable of authentic leadership and the PSQ used to measure the outcome variable of project success. In this study, the ALQ was used to measure a leader's perception of themselves as an authentic leader (Walumbwa et al., 2008), with the study participants rating themselves as authentic leaders. The ALQ specifically measures the dimensions of authentic leadership, including "leader self-awareness, relational transparency, internalized moral perspective, and balanced processing" (Walumbwa et al., 2008, p. 89). Mind Garden (2007) noted the ALQ consists of 16 questions respondents' rate on a five-point Likert scale, where values range from 0 = not at all to 4 = frequently, if not always. The overall ALQ raw score is calculated from the average score for each of the transparency, moral/ethical, balanced processing, and self-awareness scales.

LeBlanc (2008) noted the PSQ is an instrument created to measure project success as defined by overall project success, project budget, scope, and schedule, and was selected to measure project success in this research study. The PSQ consists of five close-ended self-reported questions administered to project managers or those people in a project management role to measure project success (selection choices include *Successful* or *Not Successful*) and basic demographic information (including PMI membership, credentials, years of experience, and whether the respondent wished to receive a copy of

the study results). While survey participants were asked to rate project success for their last three projects in terms of scope, schedule, and budget, the project success score was self-reporting and not calculated from the scope, schedule, and budget scores. For this reason, only the project success score was utilized as the dependent variable in this research study.

**Descriptive Statistics**

Trochim (2006) noted descriptive statistics help to present large amounts of a data in an understandable way and are often used to describe the frequency and distribution of data. A total of 121 participants submitted responses to the survey, with 61 responses eligible to be used in this research study. The four components of authentic leadership measured by the ALQ included transparency, self-awareness, ethical/moral, and balanced processing. The average overall ALQ raw score was 3.2 ($n$ = 61).

The PSQ directed respondents to self-report an overall project success score (*Not* S*uccessful* or *Successful*) for each of the last three projects completed. Since this value was self-reported and was not calculated from the scope, schedule, and budget scores (that were also self-reported), the overall project success score was used in this research study as the dependent variable. The average rate of successful projects noted in this study was 91% ($n$ = 61). From the counts noted in the study, most of the projects were reported as successful projects and only 17 projects out of a total of 183 (7%) reported as failures. The distribution and frequency of overall project success scores for each project are included in Table 3.

Table 3

*Overall Project Success by Project*

| | Not Successful | | Successful | | Total | |
|---|---|---|---|---|---|---|
| Project | Count | Percentage | Count | Percentage | Count | Percentage |
| Project A | 2 | 3.3% | 59 | 96.7% | 61 | 100% |
| Project B | 5 | 8.2% | 56 | 91.8% | 61 | 100% |
| Project C | 10 | 16.4% | 51 | 83.6% | 61 | 100% |

**Results by Research Question**

Two research questions directed the study: *What is the relationship between authentic leadership in project managers and project success*, and *does a project management credential moderate this relationship*? Four hypotheses were examined to determine the relationship between authentic leadership components, professional certification, and project success:

$H_0$1: Authentic leadership characteristics in project managers as measured by the ALQ do not predict project success as measured by the PSQ.

$H_A$1: Authentic leadership characteristics in project managers as measured by the ALQ predict project success as defined by the PSQ.

$H_0$2: A PMP or CAPM credential does not moderate the relationship between authentic project managers and project success as defined by the PSQ.

$H_A$2: A PMP or CAPM credential moderates the relationship between authentic project managers and project success as measured by the PSQ.

**Research question 1.** A multiple regression was run to predict project success from the four components of authentic leadership: transparency, self-awareness, ethical/moral values, and balanced processing. Partial regression plots and a plot of studentized residuals against the predicted values were used to assess and confirm linearity. A Durbin-Watson statistic of 2.479 was used to evaluate and confirm the independence of residuals. Visual inspection of a plot of studentized residuals versus unstandardized predicted values confirmed homoscedasticity. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There were no studentized deleted residuals greater than ±3 standard deviations, no leverage values greater than 0.2, and values for Cook's distance above 1. The assumption of normality was met, as assessed by a Q-Q Plot.

The multiple regression model was not statistically significant to predict project success, $F$ (5, 55) = 1.251, $p < .05$, adj. $R^2 = .020$. Post hoc analysis indicates that based on the adjusted effect size achieved, a sample size of 995 would have been needed to achieve statistical significance. Cohen (1992) described Pearson's correlation coefficient estimates as a small effect size ($r = .10$), medium effect size ($r = .30$) or a large effect size ($r = .50$); the effect size for the study when estimating the sample size needed was a medium effect size ($r = .40$). Transparency, self-awareness, ethical/moral values, and balanced processing variables did not statistically predict project success, $p > .05$. The null hypothesis $H_0 1$: Authentic leadership characteristics in project managers as measured by the ALQ do not predict project success as measured by the PSQ failed to be rejected.

Analysis of variance (ANOVA) values can be found in Table 4 and regression coefficients and standard errors can be found in Table 5.

Table 4

*ANOVA*[a]

| Model | Sum of Squares | *df* | Mean Square | *F* | Sig. |
|---|---|---|---|---|---|
| Regression | 1.744 | 5 | .349 | 1.251 | .298[b] |
| Residual | 15.338 | 55 | .279 | | |
| Total | 17.082 | 60 | | | |

a. Dependent variable: Project Success
b. Predictors: (Constant): Certification, Balanced Processing, Transparency, Self-Awareness, Ethical/Moral

Table 5

*Summary of Multiple Regression Analysis*

| | Unstandardized coefficients | | Standardized coefficients | | |
|---|---|---|---|---|---|
| Variable | *β* | $SE_{\beta}$ | *β* | *t* | Sig. |
| (Constant) | 1.578 | .610 | | 2.586 | .012 |
| Transparency | .266 | .205 | .211* | 1.296 | .200 |
| Self-awareness | .203 | .160 | -.200* | -1.271 | .209 |
| Ethical/Moral | .086 | .188 | .079* | .458 | .648 |
| Balanced processing | .178 | .173 | .159* | 1.028 | .308 |
| Certification | .003 | .140 | .003* | .022 | .962 |

Note. * $p < .05$

**Research question 2.** The second research question focused on the independent variable: Does a PMP or CAPM credential moderate the relationship between authentic

project managers and project success, defined as meeting project scope, schedule, and budget objectives? Because transparency, self-awareness, ethical/moral values, and balanced processing variables did not statistically predict project success, $p > .05$, possession of a project management certification did not moderate the relationship between the components of authentic leadership in project managers and project success. The null hypothesis $H_0$2: A PMP or CAPM credential does not moderate the relationship between authentic project managers and project success as defined by the PSQ failed to be rejected.

## Summary

This quantitative non-experimental correlational research study focused on two research questions*:* "What is the relationship between authentic leadership in project managers and project success, defined as meeting project scope, schedule, and budget objectives?" and "Does a PMP or CAPM credential moderate the relationship between authentic project managers and project success, defined as meeting project scope, schedule, and budget objectives?" Multiple regression analyses revealed authentic leadership components of transparency, self-awareness, ethical/moral values, and balanced processing variables did not statistically significantly predict project success, nor did the possession of a project management credential moderate the relationship between authentic leadership in project management and project success. The findings are interpreted in the next chapter, and limitations of the study, recommendations, and implications of the study are discussed as well.

# Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this quantitative correlational study using multiple regression analysis was to examine the relationship between authentic leadership in project managers and project success as defined by measures of scope, schedule, and budget. A second purpose was to determine if the possession of a professional credential such as the PMP or CAPM certification moderates the relationship between authentic leadership in project managers and project success. The research study was conducted in response to a gap in the literature regarding the relationship between project success and authentic leaders in an organization who fulfill an informal leadership role. In addition to predicting project success, if the relationship between project managers who are also authentic leaders and project success is present, further research could be performed examining the relationship between organizational leaders who are not positional leaders and positive employee outcomes.

If authentic leadership skills predict project success, then organizational leaders may choose to place a greater emphasis on leadership competencies during the project manager selection process to decrease the outlay for each project. Understanding how authentic leadership in project managers is related to project success may also contribute to useful information for project manager training, development, and certification. Key findings of the study included that authentic leadership components of transparency, self-awareness, ethical/moral values, and balanced processing variables were not statistically significant in predicting project success, nor did the possession of a project management

credential moderate the relationship between authentic leadership in project management and project success.

## Interpretation of the Findings

The findings of this research study confirm the findings of studies related to leadership styles of project managers, project management certification, and project success. As noted by Müller and Turner (2007), the correlation between management style of the project manager and project success has not been statistically significant, whether or not the project manager possesses a project management credential. This research study focused specifically on the relationship between authentic leadership in project managers and project success, and similar to the findings of Müller and Turner and Ssegawa (2015) in their studies of general management styles of project managers and project success, the findings did not reveal a statistically significant relationship between variables of transparency, self-awareness, ethical/moral values, and balanced processing and project success. The components of authentic leadership did not statistically predict project success, as $p > .05$.

In this study, certification in project management with a credential such as the PMP or CAPM was not found to be a moderating independent variable in the relationship between authentic leadership in project managers and project success, as the independent variable certification had a weak relationship with project success. Analysis of the findings of this study suggests leadership style may not be as important to project managers as are the more technical and analytical skills of effectively managing scope, schedule, and budget of projects and the research approach and instruments may not have

been the best suited for revealing the relationship between authentic leadership in project managers and project success. This confirms similar findings of Pant and Bassam (2008), who noted mastery of technical skills is emphasized more than human skills in the attainment of a project management credential such as the PMP or CAPM. In this study only 39.3% ($n$ = 61) of the participants possessed certification in project management, with 8.2% of those participants with 10 years or less of project management experience possessing a credential.

The literature is clear as to the ambiguity of project success as a concept, as noted by Hidding and Nicholas (2017). This study confirmed the subjectivity of this concept and suggested current definitions of project success are focused more on technical skills and the perceptions of sponsors, rather than a standardized, uniform agreement as to the meaning of project success (Cooke-Davies, 2002; Judgev & Müller, 2005; Nelson, 2005; Pinto & Slevin, 1988; Serrador & Turner, 2015; Shenhar & Levy, 1997; Turner & Zolin, 2012). Location and selection of an instrument by which to measure project success was challenging; LeBlanc (2008) developed the PSQ as part of the study of the association of project manager personality traits to project success that directed participants to self-report the success of their last three projects as they related to scope, schedule, and budget (only the project success variable from the PSQ was used in this study). The responses in LeBlanc's study as well as the data in this study suggested some projects were deemed successful even if the projects did not meet project scope, schedule, and budget objectives. This observation confirmed Murugesan's (2012) findings that project managers are described as effective based on the success of their projects.

The theoretical framework of this study encompassed several theories central to understanding the relationship between authentic leadership, project managers, professional project management credentials, and project success. Authentic leadership theory and social identity theory are key in understanding how authentic leaders are true to themselves and how they relate to followers (or project team members), whether the project managers are titled leaders or informal leaders in an organization. The findings of this study indicated authentic leadership in project managers is weakly correlated with project success. Factors influencing social identity of the project manager and team as they relate to authentic leadership and project success were not part of this study.

## Limitations of the Study

The purpose of this study was to investigate the relationship between authentic leadership in project managers and project success, with focus on whether possession of a professional credential such as the PMP or CAPM moderated the relationship. The approach of the current study was narrowly constrained to project managers or those who were in or who had been in a project manager role who were also authentic leaders. The data collection for this study was anonymous and accomplished through a hosted website and the sample was a non-probability and purposive sample and therefore, is not suitable for generalizability to the larger project manager population. The higher level focus of the current study was on the relationship between nonpositional leaders such as project managers who exhibit authentic leadership characteristics and positive organizational outcomes, such as successful projects. The effects of confounding variables were

eliminated; instruments with internal validity were used, and the result was a study with internal validity (Statisticshowto.com, 2017).

**Assumptions**

There were three assumptions identified in this quantitative non-experimental study. The first assumption was that participants were currently in or have been in a project management role. The second assumption was that participation in the study by respondents was voluntary and not coerced. The third assumption was that study participants responded to instrument questions with honesty and integrity.

**Limitations**

Limitations of this study included actions or activities contradicting the assumptions stated in the study, participation rate, and instrument design. These actions included failure of the survey instructions to study participants to emphasize that project success was based on achievement of project objectives of scope, schedule, and budget. An additional limitation was not enough study respondents to achieve statistical significance. This limitation was realized, as post hoc analysis revealed an estimated sample size of nearly 1,000 participants was needed to achieve statistical significance, given the small effect size. The PSQ instrument may not have been the correct instrument to use for this study, as the project management variable (the dependent variable in this study) was not a calculated value but rather a self-reported value that did not seem in some cases to have an association with the PSQ variables of scope, schedule, and budget.

## Recommendations

The focus of this study was to examine the link between factors of authentic leadership in project managers and project success. Failed projects have global impact, and the PMI (2017) noted for every U.S. $1 billion spent, approximately U.S. $97 million was lost due to project failures. Project managers often lead projects and how well project managers lead project teams has a direct impact on project success (PMI, 2015). This study focused specifically on the relationship between those project managers (or those who are in a project manager role) who expressed the components of authentic leadership—relational transparency, self-awareness, ethical/moral values, and balanced processing—and project success, and whether possession of a project management credential moderated that relationship. The results of this study indicated there was not a statistically significant relationship between the four components of authentic leadership and project success, and possession of a project manager credential, such as the PMP or CAPM, did not moderate the relationship.

Four recommendations for further research focused on the sample population and the measurement of project success. The first recommendation is to increase the sample size to provide for greater generalizability. Though 121 responses were eventually received, only half of them were eligible to be included in data analysis ($n = 61$).

The second recommendation is to target specific organizations for the study to examine organizational project data for scope, schedule, and budget values as they relate to project success, especially if the project success instrument utilized is the PSQ. LeBlanc (2008) made this recommendation as well. The average success rate for the three

projects submitted by participants in this study was 91%, significantly larger than the global project success rate of 39% noted by the Standish Group (2013). Murugesan (2012) suggested project manager effectiveness is based on perceived success of their projects and this recommendation may assist in project success perceived less subjectively and more related to achievement of project scope, schedule, and budget objectives.

The third recommendation is for project team members to rate their project managers for authentic leadership capabilities using the ALQ, instead of project managers self-reporting their authentic leadership factors. Kinnunen et al. (2016) suggested authentic leadership emphasizes the growth of the followers of a leader and not transformation of followers into leaders. In this way the followers—project team members—are best positioned to know if their project manager exhibits characteristics of an authentic leader.

The fourth recommendation is to develop an instrument for measurement of project success if the second recommendation is not met. A uniform definition of project success as well as a way to measure it has been elusive (Ika,2009), as evidenced by a lack of viable commercial or academic instruments available for use. The PSQ is an instrument that is available for use by permission and would have been more appropriate for this study had the approach to data collection been different (e.g., not a targeted web survey to project managers but examination of projects in specific organizations). Attributes of commonly accepted project success such as (but not limited to) project scope, schedule, and budget could be measured separately against the attributes of

authentic leadership to investigate if a relationship exists between authentic leadership and project success.

## Implications

The ability for organizational leaders and project managers to understand how authentic leadership capabilities support project success and organizational effectiveness promotes positive social change at several levels. Hannah et al. (2011) suggested authentic leadership is positively linked to follower pro-social and principled behavior; society and organizations benefit when followers model authentic leader ethical behavior in ethically challenging situations. Positive behavior as it is modeled by authentic leaders also results in positive change within and outside of the organization (Luthans & Youssef, 2007).

Authentic leadership in nonpositional leaders positively affects both the economic and social aspects of society (Avolio & Gardner, 2005) and the potential societal and economic change implications of nonpositional leaders such as project managers who characterize authentic leadership are broad. PMI (2016) predicts that millions of project-centric roles and jobs will be added to the global workforce over the next decade, and project managers who demonstrate characteristics of authentic leadership may positively influence these new jobs and roles. This is important because, though the link between authentic leadership characteristics in leaders and positive employee outcomes has been established (Bamford et al., 2013; Gill, 2012; Lanzoni & Meirelles, 2011; Leroy et al., 2012; Peus et al., 2010), the relationship between an organization's nonpositional

authentic leaders (such as project managers) and positive organizational outcomes such as project success is less clear.

## Conclusion

The specific purpose of this quantitative study using multiple regression analysis was to investigate if authentic leadership in an organization's project managers predicts project success, and a second purpose was to determine if the possession of the PMP certification moderates the relationship between authentic leadership and project success. This research study was also an exploration of the gap in the literature regarding the relationship between nonpositional leaders in an organization and the authentic leadership components of relational transparency, self-awareness, ethical/moral values, and balanced processing. The study findings indicated a statistically insignificant relationship between authentic leadership factors in project managers and project success, a finding supported in the literature regarding the low level of influence of management styles of project managers on project success (Müller & Turner, 2007; Ssegawa, 2015). Project success remains a subjective construct for organizations and project managers, and as organizations worldwide become increasingly project-focused the method by which project success is measured may need to change.

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Appendix A: Signed Permission to Use the Authentic Leadership Questionnaire

Laurie Levy

mind garden

To whom it may concern,

This letter is to grant permission for Laurie Levy to use the following copyright material for his/her research:

Instrument: ***Authentic Leadership Questionnaire (ALQ)***

Authors: ***Bruce J. Avolio, William L. Gardner, and Fred O. Walumbwa***

Copyright: ***2007 by Bruce J. Avolio, William L. Gardner, and Fred O. Walumbwa***

Three sample items from this instrument may be reproduced for inclusion in a proposal, thesis, or dissertation.

The entire instrument may not be included or reproduced at any time in any published material.

Sincerely,

Mind Garden, Inc.
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Appendix B: Signed Permission to Use the Project Success Questionnaire (PSQ)

Laurie Levý
39800 SW LaSalle Road
Gaston, OR 97119

August 9, 2018

Dr. Desiree LeBlanc
12902 Teal Hollow Drive
Cypress, TX 77499

Dear Dr. LeBlanc:

I am a doctoral student at Walden University, completing my PhD in Industrial-Organizational Psychology, and am preparing my dissertation. I would like your permission to use in my research and include in my dissertation the Project Success Questionnaire (PSQ) from your dissertation, as further described below.

I will include an acknowledgment of the author and the source of the PSQ and would be happy to include specific wording, if you have a preferred form of acknowledgment. If you agree to this use, please confirm your agreement by completing and returning the acknowledgment included below, to the address on the first page of this letter.

If you do not hold the copyright for this material, or the right to grant this type of permission, I would greatly appreciate any information you can provide to me regarding the rights holder(s), including any contact information.

Thank you for considering this request and for supporting my research.

Sincerely,

Laurie Levý

Title of Dissertation: The Relationship Between Authentic Leadership in Project Managers and Project Success

Degree: PhD in Industrial-Organizational Psychology Graduating Year: 2019

Permission is hereby granted to Laurie Levý and Walden University to use and reproduce the following in the dissertation:

Project Success Questionnaire (PSQ)

Signature of copyright holder or representative: Desiree C. LeBlanc, DM, PMP, PHR

Name: Desiree C. LeBlanc, DM, PMP, PHR Date: Aug 12, 2018

Address: 12902 Teal Hollow Drive City, State: Cypress, TX 77499

Appendix C: Project Success Questionnaire (PSQ)

## Project Success Questionnaire - Pilot

Identification Number: _____

INSTRUCTIONS: Please complete the following questionnaire by answering all questions pertaining to project success in the Information Technology industry. Project success is measured from the triple constraints of Budget (the cost to complete the project); Schedule (the time it takes to complete the project); and Scope (what the project needs to accomplish).

Please completely fill in the boxes that correspond to your answer with a pen or pencil. The proper mark for the answer should be like this ☒

**Section I: Project Success -**

| 1. For the last 3 projects you managed and completed, please choose the correct response for each project. | Overall Project Success | | Budget | | | Schedule | | | Scope | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Successful | Not Successful | Under Budget | On Budget | Over Budget | Ahead of Schedule | On Schedule | Behind Schedule | Did Not Meet | Met |
| Project A (most recent) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Project B | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Project C | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

**Section II: General Information**

2. **Are you a PMI member?** ☐ Yes ☐ No

3. **Are you certified in project management (ex. PMP, CAPM, other)?** ☐ Yes ☐ No

4. **How many years of project management experience do you have?** ☐ 0 to 5 years ☐ 6 to 10 years ☐ 10 to 20 years ☐ 20+ years

5. **Would you like a report of the findings from this research study?** ☐ Yes ☐ No

If yes, please provide email address: _____

# Appendix D: ALQ Overall Raw Score by Gender

*ALQ Overall Raw Score by Gender*

| | Male ($n$ = 29) | | Female ($n$ = 32) | | Total ($n$ = 61) | |
|---|---|---|---|---|---|---|
| Score | Count | Percentage | Count | Percentage | Count | Percentage |
| 2.1 | 0 | 0.0% | 1 | 3.1% | 1 | 1.6% |
| 2.3 | 1 | 3.4% | 0 | 0.0% | 1 | 1.6% |
| 2.4 | 1 | 3.4% | 0 | 0.0% | 1 | 1.6% |
| 2.6 | 0 | 0.0% | 1 | 3.1% | 1 | 1.6% |
| 2.7 | 0 | 0.0% | 1 | 3.1% | 1 | 1.6% |
| 2.8 | 2 | 6.9% | 3 | 9.4% | 5 | 8.2% |
| 2.9 | 3 | 10.4% | 3 | 9.4% | 6 | 9.9% |
| 3.0 | 4 | 13.9% | 1 | 3.1% | 5 | 8.2% |
| 3.1 | 3 | 10.4% | 5 | 15.6% | 8 | 13.1% |
| 3.2 | 3 | 10.4% | 2 | 6.3% | 5 | 8.2% |
| 3.3 | 5 | 17.2% | 6 | 18.8% | 11 | 18.0% |
| 3.4 | 1 | 3.4% | 4 | 12.5% | 5 | 8.2% |
| 3.5 | 1 | 3.4% | 1 | 3.1% | 2 | 3.4% |
| 3.6 | 3 | 10.4% | 2 | 6.3% | 5 | 8.2% |
| 3.8 | 1 | 3.4% | 1 | 3.1% | 2 | 3.4% |
| 3.9 | 1 | 3.4% | 0 | 0.0% | 1 | 1.6% |
| 4.00 | 0 | 0.0% | 1 | 3.1% | 1 | 1.6% |

# Appendix E: ALQ Overall Raw Scores by Component

*ALQ Overall Raw Scores by Component*

| Overall Score | Transparency | Self-Awareness | Ethical/Moral | Balanced Processing |
|---|---|---|---|---|
| 2.1 | 2.2 | 1.8 | 2.3 | 2 |
| 2.3 | 2.8 | 1.5 | 2.5 | 2.3 |
| 2.4 | 2.4 | 2.5 | 2.5 | 2.3 |
| 2.6 | 2.6 | 2.5 | 2.8 | 2.7 |
| 2.7 | 2.8 | 2.8 | 2.8 | 2.3 |
| 2.8 | 2.6 | 2.8 | 3 | 3 |
| 2.8 | 2.6 | 2.5 | 3 | 3.3 |
| 2.8 | 2.8 | 2.8 | 2.8 | 2.7 |
| 2.8 | 3.6 | 3 | 4 | 3 |
| 2.8 | 4 | 4 | 4 | *4* |
| 2.9 | 2.8 | 2.8 | 2.8 | 3.3 |
| 2.9 | 2.8 | 2.5 | 2.8 | 3.7 |
| 2.9 | 3 | 2.8 | 2.8 | 3 |
| 2.9 | 3 | 2.3 | 3.8 | 2.7 |
| 2.9 | 3.2 | 2 | 3 | 3.3 |
| 2.9 | 3.2 | 3.3 | 3.5 | 3.3 |
| 3 | 2.2 | 3.3 | 3 | 4 |

*(table continued)*

| Overall Score | Transparency | Self-Awareness | Ethical/Moral | Balanced Processing |
|---|---|---|---|---|
| 3 | 2.8 | 3.3 | 3 | 3 |
| 3 | 3 | 2.8 | 3.3 | 3 |
| 3 | 3.2 | 2.3 | 3.8 | 2.7 |
| 3 | 3.4 | 2.5 | 3 | 3 |
| 3.1 | 2.6 | 3.3 | 3.5 | 3.3 |
| 3.1 | 2.6 | 3.3 | 3.3 | 3.3 |
| 3.1 | 3.2 | 3 | 3 | 3 |
| 3.1 | 3.2 | 3 | 2.8 | 3.3 |
| 3.1 | 3.2 | 3 | 3.3 | 3 |
| 3.1 | 3.2 | 2.5 | 2.5 | 3.3 |
| 3.1 | 3.4 | 2 | 3.5 | 3.3 |
| 3.1 | 3.6 | 2.3 | 3 | 3.3 |
| 3.2 | 2.6 | 3.5 | 3.5 | 3.3 |
| 3.2 | 2.8 | 2.8 | 3.8 | 3.7 |
| 3.2 | 2.8 | 2.8 | 2.8 | 2.7 |
| 3.2 | 3.2 | 3.3 | 3.5 | 2.7 |
| 3.2 | 3.4 | 2.8 | 3.5 | 3 |
| 3.3 | 2.8 | 3.8 | 3.8 | 3 |
| 3.3 | 3 | 3 | 4 | 3.3 |

*(table continued)*

| Overall Score | Transparency | Self-Awareness | Ethical/Moral | Balanced Processing |
|---|---|---|---|---|
| 3.3 | 3 | 3.3 | 4 | 2.7 |
| 3.3 | 3 | 3.5 | 3 | 3.7 |
| 3.3 | 3 | 2.3 | 2.8 | 3.3 |
| 3.3 | 3.2 | 3 | 3.5 | 3.7 |
| 3.3 | 3.4 | 3.3 | 3.3 | 3.3 |
| 3.3 | 3.4 | 2.8 | 4 | 3 |
| 3.3 | 3.4 | 3 | 3.3 | 3.7 |
| 3.3 | 3.4 | 3 | 3.3 | 3.7 |
| 3.3 | 3.8 | 2.3 | 4 | 2.7 |
| 3.4 | 3.2 | 3.3 | 3.5 | 4 |
| 3.4 | 3.2 | 3 | 4 | 3.3 |
| 3.4 | 3.2 | 2.3 | 3.5 | 3.3 |
| 3.4 | 3.6 | 3.3 | 3.8 | 3 |
| 3.4 | 3.6 | 3 | 3.8 | 3.7 |
| 3.5 | 3 | 2.3 | 4 | 3.7 |
| 3.5 | 3.6 | 2.8 | 3.8 | 4 |
| 3.6 | 3.2 | 3.8 | 3.8 | 4 |
| 3.6 | 3.4 | 3.3 | 4 | 4 |
| 3.6 | 3.4 | 3.5 | 4 | 3.3 |

*(table continued)*

| Overall Score | Transparency | Self-Awareness | Ethical/Moral | Balanced Processing |
|---|---|---|---|---|
| 3.6 | 3.8 | 3.3 | 3.8 | 3.3 |
| 3.6 | 3.8 | 3.5 | 3.5 | 3.3 |
| 3.8 | 3.6 | 4 | 3.8 | 3.7 |
| 3.8 | 4 | 3.5 | 3.8 | 3.7 |
| 3.9 | 4 | 3.5 | 4 | 4 |
| 4 | 3 | 2.8 | 3 | 2.7 |

# Appendix F: ALQ Percentiles and Count

*ALQ Percentiles and Count*

| Raw Score | Count | Percentiles | | | | |
|---|---|---|---|---|---|---|
| | | Self-Awareness | Balanced Processing | Ethical/ Moral | Transparency | Total |
| 0.00 | 0 | 1 | 1 | 0 | 0 | 0 |
| 0.25 | 0 | 2 | 2 | 0 | 0 | 1 |
| 0.50 | 0 | 4 | 4 | 1 | 1 | 2 |
| 0.75 | 0 | 7 | 6 | 2 | 3 | 4 |
| 1.00 | 0 | 11 | 10 | 4 | 4 | 7 |
| 1.25 | 0 | 17 | 16 | 8 | 9 | 12 |
| 1.50 | 0 | 24 | 23 | 12 | 14 | 18 |
| 1.75 | 0 | 32 | 31 | 20 | 22 | 26 |
| 2.00 | 1 | 42 | 41 | 30 | 32 | 36 |
| 2.25 | 1 | 52 | 52 | 39 | 42 | 46 |
| 2.50 | 2 | 62 | 62 | 50 | 55 | 58 |
| 2.75 | 1 | 71 | 72 | 61 | 66 | 68 |
| 3.00 | 24 | 79 | 80 | 71 | 76 | 77 |
| 3.25 | 16 | 86 | 86 | 80 | 84 | 84 |
| 3.50 | 12 | 90 | 91 | 87 | 90 | 90 |
| 3.75 | 2 | 94 | 94 | 92 | 95 | 94 |
| 4.00 | 2 | 97 | 97 | 95 | 98 | 97 |