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The Effect of Leadership Coaching on the Self-Efficacy of New Assistant Principals

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By

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THE EFFECT OF LEADERSHIP COACHING ON THE SELF-EFFICACY OF NEW ASSISTANT PRINCIPALS

By

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ABSTRACT

The purpose of this quantitative study was to determine the effect of leadership coaching on new assistant principals' perceptions of self-efficacy. Participants involved in the study included newly appointed assistant principals enrolled in a suburban public school district leadership academy that included multiple coaching sessions. Data were collected via a pre and post-test instrument designed to measure perceptions of self-efficacy. Analysis of covariance was used to determine whether the null hypothesis of two research questions would be accepted or rejected.

Findings showed that participants who experienced leadership coaching had statistically significant gains on post-test scores over pretest scores in all eight factors measured when controlling for pre-test scores. Furthermore, participants who experienced leadership coaching had significantly greater posttest mean scores than noncoached participants had in two of the eight measured factors when controlling for pretest scores.

Keywords: assistant principal, leadership coaching, professional learning, self-efficacy, dissertation, quantitative, ANCOVA

DEDICATION

First and foremost, this work is dedicated to my family. Without sacrifices in time and money, I would not have been able to make it this far. To my wife, Amy Catherine, who has supported me repeatedly each time I take on a new challenge. You are as much a part of this work as I am. To my son, Will, who has watched me spend countless hours in front of the computer and knows how often I have had to work on the weekends instead of play or watch movies. Relief is in sight!

To my dad, Louis, and his dad, Anthony, who were the doctors that came before me. I am proud to be the third generation of Manzella to hold the title of doctor.

Next, this work is dedicated to the field of leadership coaching and the coaches around the world who are providing the next level of leadership development. May this work be a small contribution that builds on the foundation of executive coaching.

Lastly, this work is dedicated to all school leaders in the hopes that you will continue to have a positive impact on the students, teachers, parents, and staff that you work with every day. May this work support to your growth and continue to advance the field of leadership development in education.

ACKNOWLEDGEMENTS

The completion of my doctoral dissertation is the culmination of 10 years of graduate studies at Kennesaw State University. During that time, I have made many friends, learned from many professors, and found a true passion to pursue beyond my time as a graduate student. Thank you to everyone I have worked with over the past 10 years through the stress, sadness, and laughter. Each of you has contributed to my journey in some way.

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To Dr. Chandler, of course. We know you are proud of us. We think of you often.

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CHAPTER 1: INTRODUCTION

The role of assistant principals in K-12 education is becoming more complex (Barnett, Shoho, & Oleszewski, 2012). However, aside from university coursework and local site mentoring, there is a lack of research on effective professional learning for assistant principals (Hunt, 2011). The most effective professional learning for educational leaders must be job embedded and directly related to professional practice (Workman, 2013; Johnson, 2016).

Statement of the Problem

There are several reasons why it is important to effectively prepare and develop assistant principals. First, the role of an assistant principal is critical to school improvement (Oleszewski, Shoho, & Barnett, 2012). Second, effective assistant principals become principals (Barnett et al., 2012). Developing assistant principals builds leadership capacity for future leadership roles (Gurley, Anast-May, & Lee, 2013). The steep learning curve for new assistant principals who are coming directly from the role of classroom teacher necessitates a form of reflective professional learning to ease their transition into an administrative role (Armstrong, 2015).

Leadership coaching, a form of professional learning most frequently used in business, has not been highly researched in relation to the professional growth of newly appointed assistant principals (Wise & Hammack, 2011). However, leadership coaching may present an effective form of professional learning for new school leaders. Specifically, leadership coaching may serve as a key professional learning resource in facilitating assistant principals' leadership growth during the first year in their new leadership role.

Research Questions

Gurley et al. (2013) recommended revising the role of assistant principals by increasing their leadership capacity through professional learning. Silver, Lochmiller, Copland, and Tripps

(2009) recommended further research in the area of leadership coaching and its impact on leadership practice. A 2009 study in the field of business by Moen and Allgood found that "effective executive coaching increases self-efficacy… these findings seem to indicate that executive coaching can be an effective tool in order to drive employee growth and development" (pp.76-77). Based on these findings, this study will pursue further to seek answers to the following research questions:

(1) Does leadership coaching make a difference in the perception of new assistant principals regarding their self-efficacy?

(2) Is there a difference in self-efficacy perceptions of new assistant principals who received leadership coaching and those who did not?

Purpose and Significance of the Study

Leadership development is an important component of professional growth for assistant principals as they transition from the role of classroom teacher to that of building-level leader (Barnett et al., 2012). However, the growth process for assistant principals has been largely marginalized by a lack of established professional learning. Newly appointed assistant principals, left with a void of professional growth opportunities, must rely primarily on university coursework, on-the-job experiences, and mentorship to guide their developmental process (Workman, 2013). Although these preparation methods can be effective, other means of professional learning may help assistant principals with the transition. As the responsibilities associated with the role of assistant principals continue to grow more complex (Barnett et al., 2012), additional professional learning may be warranted. The purpose of this study was to determine whether leadership coaching is an effective form of professional learning for newly appointed assistant principals.

Conceptual Framework

The graphical representation shown in Figure 1 delineates the major themes of this study. The focus of the study lies at the intersection of assistant principal development, effective professional learning, and leadership coaching with an overarching concept of self-efficacy. These three concepts represent the infrastructure of the conceptual framework used in this study.

There is limited research in the literature to support effective assistant principal learning programs (Hunt, 2011). Leadership coaching, a form of professional learning originating in the private business sector for high-achieving leaders, has some research in education but little evidence in the literature of use with assistant principals. The leadership coaches participating in this study have clinical experience and university-provided training focused specifically on educational leadership. While the graphical representation points out several gaps in the literature, this study focused on leadership coaching as an effective form of professional learning for new assistant principals.

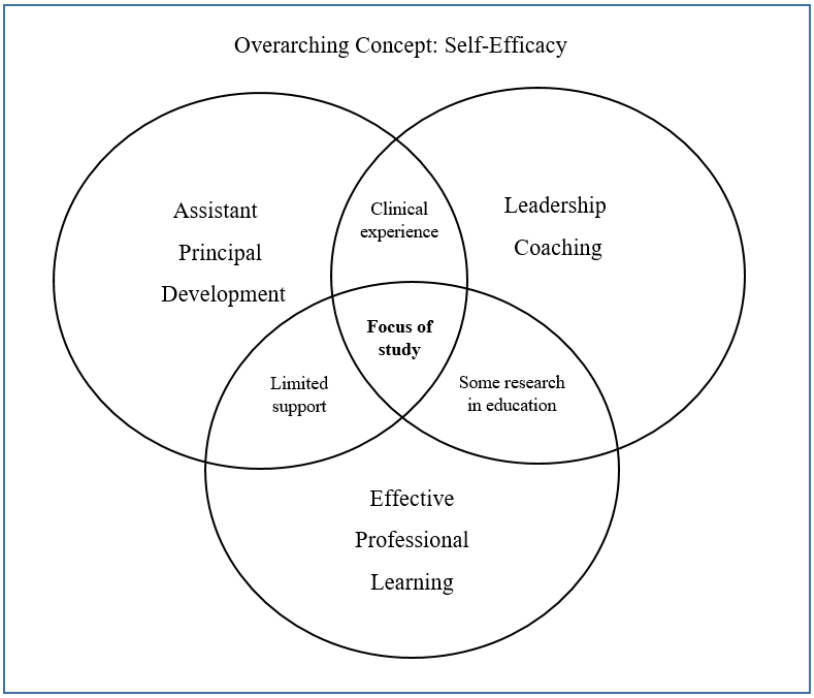

Figure 1. Graphical Representation of Leadership Coaching Conceptual Framework

Review of Relevant Terms

The research uses the following terms:

- Coaching – "a method which aims to achieve self actualization by facilitating learning and development processes to promote the resource base of another person" (Moen & Allgood, 2009, p. 71). Throughout this study, the general term *coaching* is used interchangeably with leadership coaching, particularly in reference to the treatment received by participants in the study.
- Executive coaching – a business coaching term for how organizations and individuals can improve the performance of executives at work and facilitate professional learning (Moen & Allgood, 2009). This term for coaching is used primarily in Chapter 2 of this study in reference to the use of coaching in fields other than education.
- Leadership coaching – "an individualized, situational, goal-oriented, professional relationship focused upon the development of leadership which takes into account the circumstances and most essential challenges of today and develops the ability of the coachee to successfully master the challenges of tomorrow" (Bossi, 2008, p. 34). For the purposes of this study, leadership coaching is considered to be an extension of the term *coaching* that refers specifically to the coaching of leaders.
- Mentoring – "an extended process of support from a more experienced colleague to help a beginner for personal and professional growth" (Silver et al., 2009, p. 217). Unlike coaching, which is a relationship of equals, mentoring is a relationship of expert to novice in which experience of the expert is shared with the novice.

- Professional development – learning opportunities that occur on the job (Goldring, Preston, & Huff, 2012); delivery of information in order to influence practice (Timperley, 2011). The term *professional learning* is preferred to professional development in this study.
- Professional learning – an evolved term for professional development that implies an internal process where individuals create professional knowledge through interaction with information in such a way that they challenge previous assumptions and create new meaning (Timperley, 2011). In this study, leadership coaching is a proposed form of professional learning.
- Self-efficacy – as defined by Bandura (1994), means "people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives." For the purposes of this study, self-efficacy will also refer to the more specific construct of leader self-efficacy.

As noted, several terms in this study are used interchangeably due to their similar meaning. The terms *executive coaching* and *leadership coaching* refer to similar process and are used interchangeably throughout the literature. Additionally, the general term *coaching* is used to mean leadership coaching when used in the context of leader development. Similarly, the terms *professional development* and *professional learning* are often used to mean the process of job-based learning. This study prefers the use of the term *professional learning* for its more specific meaning and relationship to leadership coaching.

Organization of the Research

Chapter 1 includes a statement of the problem, the research questions to be addressed, the purpose and significance of the study, the graphical conceptual framework, and a review of the

relevant terms. Chapter 2 contains the review of literature. Chapter 3 details the methodology of the study and discusses the research design, participants, instrumentation, data collection procedures, data analysis procedures, validity of the interpretation and the limiting factors. Chapter 4 provides results from the analysis of data. Chapter 5 discusses the findings from statistical analysis for each research question, limitations of the findings, implications for future practice, and recommendations for further research.

CHAPTER 2: REVIEW OF LITERATURE

Review of Literature

This review of literature examines and connects empirical research on several aspects of the assistant principal, coaching, and self-efficacy. The specific sections of the review include: the role of assistant principal, assistant principal development, leadership coaching, leader impact on student achievement, self-efficacy, and coaching self-efficacy. These interrelated sections of literature provide a comprehensive review of the empirical research studies and meta-analyses related to this study. The review of literature begins by exploring the role of assistant principal and how leaders are developed for that role. Then, the concepts of leadership coaching and self-efficacy are discussed in relation to student achievement. Finally, the link between coaching and self-efficacy is examined to provide the key basis of this study.

The Role of Assistant Principal

According to Herrington and Kearney (2012), the role of assistant principal is the most critical in the progression of an administrator's career. The National Association of Secondary School Principals described the position of assistant principal as rapidly evolving while becoming more dynamic, challenging, and demanding (National Association of Secondary School Principals [NASSP], 2016). Barnett et al. (2012) concurred, noting that the job of assistant principal is becoming increasingly complex with a push to increase instructional leadership responsibilities. Furthermore, Barnett et al. found that "many job descriptions are unclear, and the explicit responsibilities of an assistant principal vary between schools and districts" (p. 93). Similarly, Armstrong (2015) found that the ambiguities of the assistant principal role had no clear timetable or definition of duties.

As a result of the complex nature of the administrative role, the initial move from classroom teacher to assistant principal carries a steep learning curve. Armstrong (2015) likened the move to a cultural shift with new assistant principals having feelings of ambiguity and a sense of dislocation. Rather than handling the familiar issues of a classroom, an assistant principal faces the new tasks of evaluating teachers, carrying out disciplinary procedures, and balancing numerous other duties and responsibilities (Workman, 2013). Barnett et al. (2012) found that the most difficult areas for new assistant principals include managing tasks and handling conflict.

As Barnett et al. (2012) noted, the position of assistant principal is typically the first formal leadership role for an educator outside of the classroom, and new assistant principals often have more experience working with students than adults. The change of pace, daily structure, and increased expectations can be overwhelming for new assistant principals. Armstrong (2015) found that the unexpected changes assistant principals face is a result of limited preparation and lack of familiarity with administrative culture. According to Workman (2013), "the transition from teacher to administration involves a complex socialization process that has serious implications with regard to the new administrator's ability to be successful in the role" (p. 16). Additionally, Nieuwenhuizen (2011) stated "Assistant principals are often placed in difficult situations that create frustration, stress, and burnout" (p. 173).

One might assume that such a significant change in educational roles would be the subject of much research. Yet, as Workman (2013) noted, there are relatively few studies on transitioning from teacher to assistant principal. Gurley et al. (2013) summarized that "literature on school-level leadership dealing specifically with the assistant principalship has been sparse at best" (p. 216). Furthermore, Nieuwenhuizen (2011) stated that the assistant principal position is

"complex and challenging, but necessary for the operation of secondary schools" (p. 153). The role of an assistant principal is critical to school improvement (Oleszewski et al., 2012), and the pressures of increased student achievement raise the expectations for assistant principals to serve as instructional leaders (Barnett et al., 2012). Therefore, effective development of assistant principals is essential to meet the challenges of the position.

Assistant Principal Development

Current forms of professional learning used to facilitate the transition from the role of teacher to the role of assistant principal are limited. Oleszewski et al. (2012) found that three primary groups provide professional learning opportunities for educators: school districts, universities, and professional or third-party associations. Local school district methods used to aid in transitioning may include leadership academies, job shadowing, and mentoring. Workman (2013) found that assistant principals learn "through a combination of the coursework they complete for the position, the specific context of the school, and the onsite instructions given by the building principal" (p. 7). However, Marshall et al. (as cited in Oleszewski et al., 2012) conducted a study in which only 29% of assistant principals were aware of programs specifically designed for them. Additionally, the roles and responsibilities of an assistant principal are not clearly defined and may vary from place to place (Barnett et al., 2012; Oleszewski et al., 2012). Further research suggests that assistant principals are often unprepared for their new roles.

Oleszewski et al. (2012) found that assistant principals lack preparation from coursework. Workman (2013) concurred, adding that traditional college preparation is not a predictor of success on the job. Workman also added that, while rising assistant principals may learn knowledge and skills about the job, they lack training in communication, conflict management, problem solving, team development, and interpersonal skills. This evidence demonstrates that

assistant principals are not adequately prepared prior to moving into their new administrative positions. Much learning for the assistant principal role appears to occur after the job has already started. However, it is unclear what professional learning strategies are most effective for assistant principals.

Effective professional learning for assistant principals is not well defined in the literature. Hunt (2011) noted the lack of research regarding professional development for assistant principals. Few professional development programs are designed for assistant principals, and program opportunities are not as deep as those offered for teachers and principals (Oleszewski et al., 2012). Furthermore, the lack of research on what knowledge, skills, and abilities are needed to make successful school leaders makes it difficult to determine exactly what professional learning programs should offer (Grissom & Harrington, 2010).

The professional learning programs that *are* offered for assistant principals should be designed to allow assistant principals to learn on the job. Johnson (2016) found that administrators preferred job-embedded learning experiences. "Effective training should be site specific. Specific objectives should be designed in concrete terms and directly related to the day to day job responsibilities of the assistant principal" (Workman, 2013, p. 19). Furthermore, Oleszewski et al. (2012) stated that assistant principal development programs should be personalized to each individual. Barnett et al. (2012) added that leadership preparation programs aimed at developing the skill sets of assistant principals "should help aspiring school leaders improve their ability to manage their time and organize priorities, resolve conflicts, and practice instructional leadership" (p. 120). Armstrong (2015) cited the need for preparation programs to be geared toward transitional needs and the demands of the complex, difficult role of assistant principal.

One method of development for assistant principals that does appear to be effective is mentoring, particularly for those assistant principals who aspire to become principals. Workman (2013) found that a principal mentoring an assistant principal was ideal for training future building principals. Oleszewski et al. (2012) had similar findings, stating, "A positive relationship with the principal has been found to positively influence the level of preparation for the principalship" (p. 269). However, further support is necessary for assistant principals who plan to advance their careers.

Assistant principals are often groomed to become future principals. Gurley et al. (2013) noted the importance of building leadership capacity for assistant principals, citing expert recommendations that assistant principals should be prepared to assume future leadership roles. Barnett et al. (2012) stated that "providing assistant principals with ongoing support and development opportunities can have enormous benefits, especially as a way of developing the attitudes and competencies needed to be successful principals" (p. 122). For districts developing school leaders, Leithwood and Jantzi (2008) recommended leadership practices that included intellectual stimulation, providing individualized support, and providing an appropriate model: "developing people… includes professional development and much more" (p. 508). Bastian and Henry (2015) suggested that on-the-job learning was effective for assistant principals who will be future principals. They conceptualized on-the-job learning through Bandura's (1977) self-efficacy model and proposed experiences through direct practice such as formal teacher observation, participation in hiring, and analyzing student achievement data.

Ultimately, Oleszewski et al. (2012) and Barnett et al. (2012) found mixed benefits on assistant principal professional development programs and concluded that more research is needed to determine efficacy and value of such programs. Bastian and Henry (2015) concurred,

suggesting "a need to better understand the characteristics of high-quality assistant principal experiences and whether such experiences significantly affect future principal performance" (p. 630). With the recommendations for effective professional learning provided in the literature and a call for further research, leadership coaching for new school leaders may be a solution to address these identified gaps.

Leadership Coaching

A form of assistant principal development not extensively discussed in the educational literature is that of leadership coaching. However, Rhodes and Fletcher (2013) noted that coaching leaders is well researched in the field of business. A study by Jones, Woods, and Guillaume (2015) which included leaders from various industries found that coaching had a positive impact on individual outcomes and performance. Anthony (2017) summarized that, although there is a lack of research on leadership coaching with limited empirical support, the effects of leadership coaching can include improved productivity and social awareness.

Leadership coaching fits the guidelines for effective assistant principal preparation discussed previously: it is site specific, customizable to develop any number of skills, and personalized to each individual (Silver et al., 2009; Jones et al., 2015). Bush, Bell, and Middlewood (2010) included coaching as part of a three-pronged approach to personalized learning along with mentoring and facilitating. A 2009 study by Silver et al. found that "university-based coaching is a valuable source of professional development and is generally viewed positively by new administrators and leadership coaches" (p. 223). These studies demonstrated the *potential* of leadership coaching in education without providing empirical evidence of the *outcomes* of leadership coaching.

While leadership coaching potentially meets the recommendations for effective professional learning for assistant principals, there is limited evidence in the literature specific to education to support the use of leadership coaching. One reason may be that coaching is often confused with mentoring. For example, Oleszewski et al. (2012) used the terms *mentoring* and *coaching* interchangeably throughout their study. Coaching practices may not be truly understood by those who seek to implement leadership coaching; thus, development called "coaching" may end up becoming a form of mentoring. Bush et al. (2010) distinguished mentoring from coaching but noted, "such distinctions are not applied consistently and coaching and mentoring practices often seem quite similar" (p. 119).

Another cause of confusion regarding leadership coaching is the current use of the term *coach* in education. Aguilar (2013) observed that "the term *coach* has been loosely and widely applied in the field of education" (p. 18). Positions such as academic coach, instructional coach, and data coach are commonly found in schools. However, though various coaching models have been used in educational settings, they have differed from leadership coaching models, which "are more aligned with executive coaching models used in other fields" (Lochmiller, 2013, p. 63).

Leadership coaching appears to be more clearly defined in business models. Ladegard and Gjerde (2014) noted that, throughout the literature, the terms *executive coaching* and *leadership coaching* are used interchangeably. They specified that "leadership coaching is coaching of executives, leaders, and managers" (p. 633). Ely et al. (2008) listed four ways in which leadership coaching is different from traditional leadership development to include:

1) a focus on the needs of the individual client as well as the needs of the client's organization,

2) coaches that have a unique set of skills,
3) the importance of the coach-client relationship, and
4) flexibility to achieve desired results.

In a more recent study, Jones et al. (2015) outlined the four core features of coaching to include:

1) a helping relationship between coach and coachee,
2) a coaching contract to set objectives,
3) achievement of objectives through a development process, and
4) growth for the coachee "by providing the tools, skills, and opportunities they need to develop themselves and become more effective" (p. 250).

Rhodes and Fletcher (2013) cautioned that the models of coaching used in business could not be directly copied to education. Furthermore, they suggested that coaching is not the complete solution to transitional leadership success but rather a potential scaffold to aid the development of self-efficacy. Lochmiller (2013) found that "coaching for educational leaders focuses on the individual, team, and/or organizational issues within a specific context… and focuses on managing the complex environment around leaders" (p. 79). Therefore, the model of coaching used for leader development must be considered along with the training and background of the leadership coaches.

Whitmore's 1992 book *Coaching for Performance* popularized the GROW model as one of the earliest coaching methodologies (Whitmore, 2009). The GROW model of leadership coaching utilizes a process that involves goal setting (G), examining reality (R), determining options (O), and then selecting what will be done to accomplish the goal (W). As part of his methodology, Whitmore cited awareness and responsibility as the two key concepts of coaching. He defined awareness as "the product of focused attention, concentration, and clarity" (p. 34).

Furthermore, Whitmore distinguished awareness as knowing what is happening around you from "self-awareness" which is knowing what you are experiencing internally. Responsibility, Whitmore argued, is also essential for high performance:

> When we truly accept, choose, or take responsibility for our thoughts and our actions, our commitment to them rises and so does our performance. When we are ordered to be responsible, told to be, expected to be, or even given responsibility if we do not fully accept it, performance does not rise… Feeling truly responsible invariably involves choice. (p. 37)

Whitmore (2009) noted several benefits for organizations who adopt a coaching culture and stated that key aspects of coaching included bringing out the best in individuals, learning on the fast track, and improving relationships. Effective questioning, Whitmore argued, is at the heart of successful coaching and drives the GROW process to bring about the maximum benefit. Though not specific to education, Whitmore's process of coaching aligns with the previously identified recommendations for assistant principal development. Furthermore, Whitmore linked coaching to the development of improved self-belief and the attainment of self-actualization in leaders.

The transformational coaching model developed by Aguilar (2013), on the other hand, was used primarily as a tool for educational coaching, though not specific to leader development. Aguilar argued that coaching is essential to effective professional learning:

> Coaching can build will, skill, knowledge, and capacity because it can go where no other professional development has gone before: into the intellect, behaviors, practices, beliefs, values, and feelings of an educator. Coaching creates a relationship in which a client feels cared for and is therefore able to access and implement new knowledge. A coach

> can foster conditions in which deep reflection and learning can take place… where powerful conversations can take place and where growth is recognized and celebrated. (p. 8)

Aguilar's transformational coaching shared many commonalities with Whitmore's coaching methodology, particularly in that goal setting and effective questioning are key aspects of successful coaching (Whitmore, 2009; Aguilar, 2013). Lochmiller (2013) found that the proficient use of coaching questions to encourage reflection and action is one of the most valuable aspects of leadership coaching support. Both the GROW model and the transformational coaching model are geared toward personalized development in which the coach does not do the developing; instead, the coach facilitates self-development (Whitmore 2009; Aguilar, 2013). Silver et al. (2009) found that personalized support was one of the most significant assets of a coaching model. The defining factors of coaching provided by Whitmore and Aguilar that include goal setting, questioning, and personalized learning are key to the value of leadership coaching for new assistant principals.

Klarin (2015) provided several key aspects of the characteristics, training, and development of coaches. He stated that the foundation of coaching is the interaction between individuals:

> One works with a coach not as a student (as in education), an intern (as in mentoring), or a patient (as in psychotherapy), but as a partner in the exploration and self-determination of one's position in life, one's intentions, interests, priorities, goals, objectives, and plans. The professional coach deliberately avoids prescriptions, influence, advice, or suggestion. The coach fully recognizes that it is not up to him to choose and make decisions; his

> position is one of nonjudgement, with no evaluation of the client's ideas and/or solutions. (p. 417)

Worldwide, training for coaches typically takes place in postgraduate programs or specialized training programs (Klarin, 2015). Such programs typically include experienced coaches who can provide guidance, theoretical training to systemize human understanding, and knowledge on specialized areas of coaching such as human development, organizational dynamics, and idiosyncrasies of decision making (Klarin, 2015). Furthermore, unlike traditional forms of educational knowledge acquisition, coaching is based on practical training and mentoring to support the growth of the coach (Klarin, 2015). Professional institutions and associations certify coaches with features that often include individualized certification, supervision, and adherence to professional standards of an association (Klarin, 2015). A major part of coach development is the use of coaching supervision, which consists of "analysis and discussion of the coach's work with an experienced supervisor" and includes observations of coaching sessions (Klarin, 2015, p. 423).

Evidence in the literature suggests that leadership coaching may provide an impactful form of professional learning for school leaders. Grissom and Harrington (2010) found a significantly positive relationship between principal effectiveness and participation in mentoring and coaching programs. Warren and Kelsen (2013) suggested that leadership coaching provides contextualized training, practical and timely opportunities for relevant learning, and space for purposeful reflection and interaction. However, these studies are specific to the principalship. A lack of professional learning opportunities specific to assistant principals is found in the literature. In later discussion, the literature describes both the importance of assistant principals

and the impact of school leadership on student achievement. Furthermore, it is suggested that the impact of coaching on school leaders may influence student achievement.

Leader Impact on Student Achievement

Several studies have discussed the relationship between school leadership and student achievement. Dutta and Sahney (2016) stated that, although leadership behaviors have an indirect impact on student achievement, leadership is widely acknowledged as a key determinant of student achievement. Huff et al. (2011) noted that school leaders have an effect on student achievement and do so indirectly by influencing teachers. In their seven claims about school leadership, Leithwood, Harris, and Hopkins (2008) found evidence that "school leadership is second only to classroom teaching as an influence on pupil learning" (p. 27). Results from a study by Bruggencate, Luyten, Scheerens, and Sleegers (2012) suggested that school leaders affected student outcomes both directly and indirectly.

Robinson, Lloyd, and Rowe (2008) analyzed different forms of leadership to determine which had the largest impact on student achievement. Finding that instructional leadership had a greater impact than transformational leadership, they concluded that school leaders who focus on the quality of learning, teaching, and teacher learning have positive impacts on student achievement. Specifically, leaders' promotion and involvement in teacher professional learning had a strong positive association with student outcomes. Shatzer, Caldarella, Hallam, and Brown (2013) conducted a similar study and further supported that instructional leadership had a stronger effect on student achievement than transformational leadership. They found that school leaders can have a meaningful impact on student achievement. The behavioral dimensions with the greatest impact on student achievement included monitoring student progress, protecting

instructional time, providing learning incentives, providing teacher incentives, and contingent rewards.

Coaching leaders may also have a positive influence on student achievement. Wise and Cavazos (2017) found that principals perceived coaching as a method to improve their practice and that coaching had a growth impact on student achievement. Wise and Hammack (2011) also found that school leaders perceive coaching as a process to improve best practices, which should lead to improved student achievement. However, both of these qualitative studies only examined leader *perceptions* of influence on student achievement after experiencing coaching. Warren and Kelsen (2013) noted that, while leadership coaching is important for new principals, very little research exists to support the effectiveness of leadership coaching as measured by student achievement. However, their quantitative study found growth in student achievement in underperforming urban schools where the principal experienced leadership coaching.

In another study, Wahlstrom, Louis, Leithwood, and Anderson (2010) examined the links between educational leaders and improved student achievement. Three of their main findings support the relational effect of school leadership on student achievement. First, instructional leadership practices have an indirect, but significant, effect on student achievement. Second, student achievement is higher when leadership is shared between principals and teachers. Third, "leadership effects on student learning occur largely because leadership strengthens professional community" (p. 10). One specific concept that influences how school leaders affect student achievement is that of self-efficacy.

Self-Efficacy

Self-efficacy is defined as a belief about one's own ability to perform a task or achieve a goal (Leithwood & Jantzi, 2008; Wahlstrom et al., 2010). The seminal works of Bandura are

cited throughout the literature as foundational to the conceptual definition of self-efficacy (Leithwood & Jantzi, 2008; Wahlstrom et al., 2010; Baron & Morin, 2010; Rhodes & Fletcher, 2013; Petridou, Nicolaidou, & Williams, 2014; Mesterova, Prochazka, Vaculik, & Smutny, 2015; Murphy & Johnson, 2016). Petridou et al. (2014) credited Bandura as being key to defining self-efficacy, clarifying self-efficacy as opposed to self-confidence, exploring the dimensions of self-efficacy, and identifying the effects of self-efficacy on individuals.

Bandura's (1977, 1994, 1997) work in the area of self-efficacy provided a theoretical background in which to design professional learning through the development of self-efficacy. Bandura (1994) said that self-efficacy affected multiple areas of one's life, including choices, motivation, quality of functioning, resilience, and vulnerability to stress and depression. He described the four sources that influenced and developed self-efficacy, the most effective of which were mastery experiences. These experiences involve successes where obstacles are overcome through perseverant effort. Setbacks and difficulties in these experiences teach individuals that success requires sustained effort. "After people become convinced they have what it takes to succeed, they persevere in the face of adversity and quickly rebound from setbacks" (Bandura, 1994, p. 3).

Murphy and Johnson (2016) called self-efficacy a specific conceptualization of internal self-confidence that "plays an important role in leadership effectiveness and development" (p. 74). Leithwood and Jantzi (2008) stated "Efficacy is a key variable in better understanding effects in most organizations" (p. 497). Petridou et al. (2014) argued that "self-efficacy has major implications for leaders and leadership development as well as leadership effectiveness" (p. 246). Bandura (2012) cautioned that self-efficacy is not a generalized trait and must be examined within a specified domain. Furthermore, he suggested that there is no all-purpose

measure of self-efficacy as a single domain. Therefore, the self-efficacy of leaders must be assessed within the context domain of leader self-efficacy, using a measure designed specifically to determine leader self-efficacy.

Mesterova et al. (2015) found that only a limited number of studies have examined the relationship between leader effectiveness and leader self-efficacy. The study conducted by Mesterova et al. using business CEOs did not find evidence of a relationship between leader efficacy and leader effectiveness. However, the study noted that there is no consensus of what defines a successful leader. Furthermore, the study was not related specifically to education.

A few studies in the field of education have examined a relationship between leader self-efficacy and impact on student achievement. However, Workman (2013) noted that most efficacy studies focus on principals and teachers rather than assistant principals. Leithwood et al. (2008) found evidence that leader efficacy "had an indirect but significant influence on pupils' learning and achievement" (p. 36). Leithwood and Jantzi (2008) found weak but significant effects of leader efficacy on students' state testing scores. They also recommended further research to determine leadership behaviors that developed school leaders' sense of self-efficacy and confidence. More recently, Petridou et al. (2014) reviewed literature to determine that school leaders' self-efficacy may be an important factor that influences school performance.

Findings by Wahlstrom et al. (2010) indicated that a sense of collective efficacy by principals was a key influence on teaching and learning. Furthermore, their results showed "small but significant effects of principal efficacy on student test results" (p. 15). Interestingly, they found that the use of data alone did not have a positive direct impact on student achievement. Only when data use initiatives were linked with high collective efficacy, meaning

principals believed in their capacity to meet district improvement goals, was there a positive impact on student achievement.

Three conclusions can be drawn from evidence in the literature. First, school leaders have an impact on student achievement, particularly through the practice of instructional leadership. Second, school leaders who support professional learning for teachers have an impact on student achievement. Third, the development of school leaders' self-efficacy has an impact on student performance. Barnett et al. (2012) noted that assistant principals are expected to serve as instructional leaders, and the role of an assistant principal is critical to school improvement (Oleszewski et al., 2012). So, what role does leadership coaching play in the development of educational leaders on the factors that influence student achievement, specifically in the area of self-efficacy?

Coaching Self-Efficacy

Some researchers have used the concept of self-efficacy in their definition of coaching. Anthony (2017) summarized leadership coaching as a "one-on-one partnership that focuses on strengthening the self-efficacy and performance of the individual" (p. 930). Similarly, Moen and Allgood (2009) defined coaching as a method that facilitates learning and development in another person with the goal to achieve self-actualization. However, further studies have examined the empirical relationship between coaching and self-efficacy.

Baron and Morin (2010) noted that there have been limited studies on the impact of executive coaching. However, their study found that executive coaching was "positively and significantly associated with self-efficacy" (p. 30). A quantitative study by Moen and Allgood (2009) also found that executive coaching increased self-efficacy. Grant (2013) synthesized that, based on previous studies, coachees may experience greater self-efficacy through the coaching

process. Grant's findings demonstrated support for the increase of self-efficacy through executive coaching.

One study, conducted by Moen and Federici (2012), found that leadership coaching did *not* increase self-efficacy. The study was conducted on middle managers who were coached by executives within the same company. Although results did not support increased self-efficacy after participants experienced leadership coaching, Moen and Federici noted that the coaches in the experiment, though trained in a one-year program, might have had difficulty due to the combination of their roles as both leader *and* coach within the organization. In other words, the executives acted as both supervisor and coach for the middle managers. This key distinction, they argued, was an important contribution to the overall literature on coaching and self-efficacy. Aguilar (2013) cautioned that coaching must never be used as a form of evaluation and noted that confidentiality between a coach and coachee must exist outside of a supervisory relationship. "For coaching to be most effective, the client must feel confident that you will not share any information with his supervisor" (Aguilar, 2013, p. 84). Ultimately, Moen and Federici concluded that effects of leadership coaching needed further research.

A more recent study by Sonesh et al. (2015) used a meta-analysis to investigate the effects of coaching and uncovered several key outcomes related to the development of coachees. They found that coaching had a significantly positive effect on behavioral change and that coaching improved leadership skills, job performance, and skills development. Furthermore, coaching significantly improved personal and work-related attitudes of which included self-efficacy, motivation to transfer skills, stress reduction, and organizational commitment. These findings may be substantial in the relationship of coaching to self-efficacy, as well as the use of leadership coaching as a form of development, but are not specific to educational leadership.

Studies on the relationship between coaching and self-efficacy specifically in an educational setting are extremely limited. In fact, only one study combining coaching and self-efficacy in relation to school leadership was found during the review of literature. Rhodes and Fletcher (2013) examined existing research on the relationship between coaching, mentoring, and self-efficacy to develop a professional learning framework for educational leaders. They found that coaching had an impact on leader self-efficacy at several stages of the leadership journey, including those aspiring to be school leaders. Coaching, they suggested, supports the need for mastery experiences, which, as Bandura (1994) noted, is the most effective method of building self-efficacy. Ultimately, Rhodes and Fletcher concluded that coaching serves as a potential scaffold to create appreciation of self-efficacy at multiple levels of the leadership journey.

Summary

By reviewing the role of assistant principal, and how leaders are developed for that role, it is clear that further research is necessary in the area of professional learning for school leaders. Drawing upon literature in the areas of leadership coaching and self-efficacy revealed a gap in the literature on the study of these concepts with school leaders, particularly with assistant principals. Therefore, a study on leadership coaching and its impact on the self-efficacy of newly appointed assistant principals would contribute to the overall fields of both coaching and professional learning.

The preceding review of literature examined the role of assistant principal, its increasing complexity, and the lack of effective, research professional learning for new assistant principals. Recommendations for effective professional learning of new assistant principals were reviewed,

and leadership coaching emerged as a potential process to meet those recommendations. However, there was limited research in the use of leadership coaching with assistant principals.

Leadership coaching as a concept was explored, and further evidence to suggest coaching as a potentially effective form of professional learning emerged. Confusion regarding the use of coaching in an educational setting was discussed, but the effectiveness of coaching outside of education provided a context for leadership coaching with school leaders. The importance of coaching background, training, and techniques were also examined through the context of coaching frameworks.

Next, the impact of school leaders on student achievement was reviewed, and research found that school leaders have a significant impact on student achievement. Additionally, evidence that school leaders perceived coaching as having a positive impact on student achievement was discussed.

The concept of self-efficacy in leaders was reviewed, and a link between school leader self-efficacy and student achievement was found in the literature. More specifically, the development of self-efficacy in school leaders was found to have a positive impact on student achievement. The relationship between coaching and increased self-efficacy was examined, and evidence was found to support the increase of self-efficacy in leaders through coaching. However, research specific to the development of self-efficacy in newly appointed assistant principals through leadership coaching was found to be scarce.

CHAPTER 3: METHODOLOGY

Introduction

The purpose of this study was to determine if leadership coaching may be an effective form of professional learning for newly appointed assistant principals. A quantitative approach was used to address two research questions. Participants were surveyed using pre- and post-tests, and results were analyzed using analysis of covariance (ANCOVA) to answer the research questions. In accordance with university requirements, the researcher completed the Collaborative Institutional Training Initiative (CITI) social/behavioral research course in human research. The researcher was granted approval from the university's Institutional Review Board (IRB) as well as approval for research in the participating school district.

Research Questions

Gurley et al. (2013) recommended revising the role of assistant principals by increasing their leadership capacity through professional learning. Silver et al. (2009) recommended further research in the area of leadership coaching and its impact on leadership practice. A 2009 study in the field of business by Moen and Allgood found that "effective executive coaching increases self-efficacy… these findings seem to indicate that executive coaching can be an effective tool in order to drive employee growth and development" (p.76-77). Based on these findings, this study pursued further to seek answers to the following two research questions:

(1) Does leadership coaching make a difference in the perception of new assistant principals regarding their self-efficacy?

(2) Is there a difference in self-efficacy perceptions of new assistant principals who received leadership coaching and those who did not?

Research Design

The research for this study was conducted using a descriptive quantitative design in which data were collected regarding self-efficacy before and after the application of leadership coaching using a survey research strategy for first-year assistant principals. An ex post facto quantitative approach was necessary, as the research questions involved the measurement of an effect to test hypotheses in a social research setting for which random assignment was not possible.

Participants

A suburban Georgia school system that participated in the study used a leadership academy model with four levels: level I is for teachers who are aspiring assistant principals, level II is for newly promoted assistant principals, level III is for assistant principals aspiring to be principals, and level IV is for newly promoted principals. This study focused on 30 participants of level II: individuals who were newly promoted to an assistant principal position and had not previously held an administrative school position. As part of the level II program, the selected new assistant principals were offered coaching experiences with one of three leadership coaches. Two of the coaches worked within the school system in leadership positions, and the third coach held a leadership position in a nearby system. Each leadership coach was certified through a coaching endorsement program from a local university, trained in the use of both Whitmore's (2009) GROW model of coaching and Aguilar's (2013) transformational coaching model, and able to provide similar coaching experiences to each client. Participants did not previously experience leadership coaching.

A purposive sample of 12 participants comprised of newly promoted assistant principals who did not experience leadership coaching during their first year as an assistant principal was

selected. These participants were selected based on their identification as meeting the criteria for the study: first year assistant principals who have not had previously experienced leadership coaching and have not held any previous school-based administrative positions. Noncoached participants came from the same school district as coached participants. Demographics for the noncoached participants were similar to the demographics of coached participants in terms of educational experience, school level, age, and gender.

Instrumentation

Several instruments were considered for this study. During development of the concept paper, the Self-Concept Clarity instrument (Campbell et al., 1996) and the Multifactor Leadership Questionnaire (Avolio & Bass, 2004) were identified as initial possibilities for use in the study. As the study evolved to focus specifically on self-efficacy, the General Self-Efficacy scale (Jerusalem & Schwarzer, 1995) and the Leadership Self-Efficacy scale (Bobbio & Manganelli, 2009) were considered for use in the study. Ultimately, the School Leaders' Self-Efficacy Scale (SLSES) was selected based on its design for use specifically to measure self-efficacy of school leaders, in particular within the context of professional learning activities (Petridou et al., 2014). The SLSES instrument is easily accessible and relatively short at 31 items. Permission to use the instrument was freely granted by the authors.

Reliability and validity for the SLSES were established through the process of two phases. The first phase involved development of the new measure, evaluation of its relevance, and identification of its factor structure. During this phase, the SLSES began with 53 items developed through a complex review of literature. After a panel review, the instrument was reduced to 48 items and then pilot tested with a small group of educators. No changes were

made during the pilot study and so the instrument was tested on a larger scale. Following the large-scale test, the SLSES was reduced to 32 items and the eight-factor model was extracted.

The second phase used a new sample to confirm the eight-factor model. The SLSES was administered to another sample and the eight-factor model was confirmed. However, one of the SLESE items was removed bringing the total to 31. All factor correlations were found to be statistically significant and suggested that "these measured related, yet different, aspects of school leaders' self-efficacy" (Petridou et al., 2014, p. 243).

Data Collection

Using the SLSES, a pretest was conducted with 17 first-year assistant principals taking part in a district leadership academy. Then, 16 of the participants chose to experience approximately four months of leadership coaching inclusive of at least six individual coaching sessions lasting approximately 45-70 minutes each. Following the conclusion of all coaching sessions, a posttest was given using the SLSES instrument. Of the 16 participants who experienced leadership coaching, 12 elected to complete the SLSES posttest assessment. Permission was obtained from the school district to administer the SLSES instrument and collect data on the coaching results.

A group of 13 second-year assistant principals in the same district, who all received leadership coaching as part of the district's leadership academy the previous year, were also selected to participate in the study. Coaching for these participants began approximately two months prior to the start of their first school year as an assistant principal and continued approximately three months into their first year as an assistant principal. Each participant experienced at least five individual coaching sessions lasting approximately 45-70 minutes each. Of these 13 eligible participants, 12 opted to complete a pretest using the SLSES instrument

based on their perceptions of self-efficacy prior to experiencing leadership coaching. Three months later, 11 of the participants opted to complete a posttest using the SLSES instrument based on their perceptions of self-efficacy after having completed their leadership coaching experiences in their first year as an assistant principal. Permission was obtained from the school district to administer the SLSES instrument and collect data on the coaching results.

Noncoached participants were in their first year as an assistant principal from the same school district as the coached participants. Twelve noncoached participants were invited to complete pre-and post-tests using the SLSES instrument and were offered the pre- and post-tests simultaneously. Participants were asked to complete the pretest using their perceptions of self-efficacy after having initially been promoted to the position of assistant principal five months prior. Then, participants were asked to complete the posttest using their current perception of self-efficacy. Nine of the 12 participants selected for the study completed the SLSES pretest, and seven participants went on to complete the SLSES posttest. Permission was obtained from the participating school district to administer the SLSES instrument and collect data on the results.

Data Analysis

Using an analysis of covariance (ANCOVA), the posttest results were compared to the pretest results for statistical analysis of the 23 coached participants. Pretest data was used as a covariate variable.

Participants who did not experience leadership coaching also completed the SLSES pre- and posttests. The posttest results of coached participants were compared to the posttest results from leadership academy participants who experienced leadership coaching. Comparison of

score improvement between the coached and noncoached groups was conducted using ANCOVA. Pretest data was used as a covariate.

Data for all participants of the study were collected via an electronic survey comprised of the 31 SLSES items as well as four demographic items that include school level (i.e., elementary, middle, or high), years of experience in education, gender, and age. After all participants completed the pre- and post-tests, data was exported to a .csv file and imported into version 24.0 of the Statistical Package for Social Sciences (SPSS) software. All statistical analyses were conducted via SPSS. Using ANCOVA, pre- and post-test data were analyzed for participants who experienced leadership coaching to determine if there was a significant difference in any of the eight factors identified on the SLSES. Pretest scores were used as a covariate variable. Demographic areas collected were analyzed using analysis of variance (ANOVA) to determine if additional covariates were needed.

Next, posttest scores from the noncoached participants were compared to coached participants using ANCOVA to determine if there was a significant difference. Analyses used pretest scores as a covariate.

To answer the first research question regarding leadership coaching and its impact on the perception of new assistant principals regarding their self-efficacy, ANCOVA was used to determine if there were significant changes in self-efficacy perceptions among new assistant principals after experiencing leadership coaching. Results indicated in which of the eight factors identified by the SLSES the changes in perception of self-efficacy occurred.

To answer the second research question regarding leadership coaching and the perception of self-efficacy between coached and noncoached participants, results of the ANCOVA tests were used to determine if there were significant changes in self-efficacy perceptions between

new assistant principals who experienced leadership coaching and new assistant principals who did not experience leadership coaching. Results indicated in which of the eight factors identified by the SLSES the changes in perception of self-efficacy occurred.

Validity of Interpretation

Confidentiality was maintained throughout the study by the use of birth dates to link pre- and post-tests. One of the demographic items on the survey asked participants to enter their birth month, day, and year. Participants entered this date when they completed both the pretest and posttest surveys. Birth dates were used to record demographic data regarding participant age. Then, using the birthdate entered in both the pre- and post-tests, participants were assigned a three-digit code. This code allowed SPSS to link pretest data with posttest data for the ANCOVA tests. After age data was recorded and categorized into ranges, and participants were assigned a three-digit number, birthdate information was deleted so that participants could not be personally identified. The electronic survey itself did not ask for any other personally identifiable demographic information. In addition to age, three further pieces of demographic information were collected to establish the heterogeneity of participants: years of experience in education, school level, and gender.

Internal validity methods were used to establish trustworthiness. All participants were administered the SLSES instrument at similar time intervals of experience for both pre- and post-testing. Participants were all measured at the same stage of their career, having just started in the assistant principal position with no previous administrative experience.

Participants were unlikely to drop out during the study due to the conditions under which the study took place and the minimal amount of time required to complete the SLSES instrument. Coached participants were part of a district-mandated leadership academy but chose

to receive coaching as a form of professional learning. For participants who were not coached, the time requirement was minimal, consisting of only a pre- and post-test using the SLSES instrument. Therefore, unless a participant chose not to complete the posttest, or left their administrative position prior to the posttest, there was minimal erosion of participants.

The participants of the study who were coached may have had minimal contact with those who were not coached, but contact would have only occurred for a few months. Additionally, leadership academy participants consisted of all newly appointed assistant principals with no previous administrative experience in the participating district, and no newly appointed assistant principals in the leadership academy district were excluded from the study. Finally, the long time between administrations of the SLSES minimized familiarity with the instrument for coached participants, and no changes in the instrument itself occurred between pre- and post-testing.

To control for external validity, results from the study were used to contribute to the field of leadership coaching as a form of professional learning. Results did not determine the universality of leadership coaching among all forms of leadership, nor did the results confirm or deny the effectiveness of leadership coaching. Because of the limited research available regarding leadership coaching in education, particularly with newly appointed assistant principals, further research is recommended to determine similar results in additional cases.

Informed consent was obtained from all participants of the study. Participants were provided with the aims of the study, the information collected from the study, and the intended use of the study. All information collected remained anonymous, and only demographic data within the survey identified differences in participants. At no time were actual participant names collected or linked to particular responses. As previously mentioned, birth dates were used to

link pre- and post-tests. However, that information was deleted upon assignment of a three-digit code to each participant at the conclusion of the posttest. The named use of all participating entities also remained confidential during this process. Demographic items and SLSES items did not ask for other personal information so as not to affect the privacy of participants, and participants could choose to exclude themselves from the study at any time with no negative consequences.

Limitations

Two major limitations of the research were initially identified. First, the use of purposive sampling limited the strength of the analyses that was conducted. Second, the number of participants was limited in sample size, thus reducing the strength of determined outcomes. Initially, the goal of this research was to examine only participants who experienced leadership coaching through the leadership academy of a single suburban Georgia school district during their first year as an assistant principal and then compare those results with noncoached participants from nearby districts. However, with only 17 newly appointed assistant principals in the leadership academy, additional participants who were second year assistant principals, but still had similar coaching experiences, were added. Furthermore, no other school districts agreed to participate in the study, so a third cohort of newly promoted assistant principals in the same district was utilized to gather noncoached participant data.

A third limitation of the study was the determination of leadership coaching as the singular process that affected self-efficacy in participants. Because coached participants were also in a leadership academy program or university program, other factors aside from leadership coaching may have influenced the development of self-efficacy over the course of the study. Similarly, noncoached participants may have had other experiences that influenced, either

positively or negatively, the development of self-efficacy. As a result of these limitations, all conclusions of the study must be put into the proper perspective as contributing evidence in the use of leadership coaching as a potentially developing method of professional learning for newly promoted assistant principals.

Summary

The purpose of this study was to determine whether leadership coaching was an effective form of professional learning for new assistant principals. A quantitative research design was selected to address two research questions. Participants included 12 first-year assistant principals and 11 second-year assistant principals who experienced leadership coaching as well as seven first-year assistant principals who did not experience leadership coaching. All participants were from the same school district that utilizes a leadership academy model for new assistant principals. The SLSES, a reliable and valid instrument, was used to measure changes in the perceptions of self-efficacy using a pre- and post-test model. Data collected from the instrument was analyzed using ANCOVA to compare the results. In the following chapter, findings from the data analysis will be presented.

CHAPTER 4: FINDINGS

Introduction

Chapter 4 provides the results from surveys administered to both coached and noncoached participants. Demographic information of participants is displayed by descriptive statistics. The quantitative data were analyzed to answer the two research questions:

(1) Does leadership coaching make a difference in the perception of new assistant principals regarding their self-efficacy?

(2) Is there a difference in self-efficacy perceptions of new assistant principals who received leadership coaching and those who did not?

Further analyses were conducted to answer the research questions concerning the demographic variables.

Data Descriptions

A total of 30 participants completed the SLSES survey: 23 coached participants and seven noncoached participants. As part of the survey, demographic data were collected regarding gender, school level, years of experience in education, and age. Table 1 displays the demographic data collected for participants' gender, school level, years of experience, and age.

Of the 23 coached participants, 39% were male and 61% were female. A majority of the coached participants, 52%, were from high school with 30% coming from elementary school and 17% from middle school. In years of experience in education, 13% had six to 10 years, 44% had 11 to 15 years, 22% had 16 to 20 years, and 22% had 21 to 25 years. In terms of age, 17% were 30 to 35, 30% were 36 to 40, 22% were 41 to 45, 26% were 46 to 50, and 4% were 56 to 60. No coached participants were between the ages of 51 and 55.

Demographics for the noncoached participants were similar overall to those of coached participants. Of the seven noncoached participants, 29% were male and 71% were female. The level of noncoached participants included 29% from elementary school, 14% from middle school, and 57% from high school. In terms of experience, 57% of noncoached participants had 11 to 15 years of educational experience, 29% had 16 to 20 years of experience, and 14% had 21 to 25 years of experience. No noncoached participants had less than 11 years of educational experience. The age ranges of noncoached participants included 14% that were 30 to 35, 43% that were 36 to 40, 14% that were 41 to 45, and 29% there were 46 to 50. No noncoached participants were over 50 years of age.

Table 1

Participants' Demographics

		Coached	Noncoached
Gender	Male	39%	29%
	Female	61%	71%
Level	Elementary	30%	29%
	Middle	17%	14%
	High	52%	57%
Experience (yrs.)	6 - 10	13%	0%
	11 - 15	44%	57%
	16 - 20	22%	29%
	21 - 25	22%	14%
Age	30 - 35	17%	14%
	36 - 40	30%	43%
	41 - 45	22%	14%
	46 - 50	26%	29%
	51 - 55	0%	0%
	56 - 60	4%	0%

The SLSES survey used for all pre- and post-tests contained 31 items. Participants ranked items on a 5-point Likert scale with 1 representing "not confident at all" and 5 representing "very confident." A higher score indicated higher self-efficacy for a given item.

The authors of the SLSES organized the 31 survey items into eight factors that cover, and are significant to, the efficacy or effectiveness of leadership (Petridou et al., 2014). Items one through seven are under Factor 1: creating an appropriate structure. Items eight through 14 are under Factor 2: leading and managing the learning organization. Items 15 through 17 are under Factor 3: school self-evaluation for school improvement. Items 18 through 20 are under Factor 4: developing a positive climate and managing conflicts. Items 21 through 23 are under Factor 5: evaluating classroom practices. Items 24 through 26 are under Factor 6: adhering to community and policy demands. Items 27 through 29 are under Factor 7: monitoring learning. Finally, items 30 and 31 are under Factor 8: leadership of continuing professional development (CPD) and developing others.

Data Analysis

Research Question One

To answer the first research question, a one-way analysis of variance (ANOVA) was conducted to determine if any significant differences existed in the coached group in gender, level, experience, or age for each of the eight factors on the SLSES posttest. Table 2 shows the descriptive statistics for gender in each of the eight factors for coached participants on the posttest. Table 3 shows the one-way ANOVA results used to determine if any significant differences existed in factor mean results based on the gender of participants on the posttest. No significant differences were found between male and female coached participants in any of the eight factors ($p<.05$) on the SLSES posttest.

Table 2

Coached Group Gender Descriptive Statistics for Factors 1-8

	Mean	Standard Deviation
F1 Male	4.21	.571
F1 Female	4.26	.405
F2 Male	4.16	.560
F2 Female	4.20	.403
F3 Male	4.00	.600
F3 Female	3.83	.793
F4 Male	4.22	.527
F4 Female	4.10	.561
F5 Male	4.00	.553
F5 Female	4.38	.469
F6 Male	4.19	.648
F6 Female	4.14	.518
F7 Male	4.30	.633
F7 Female	4.29	.568
F8 Male	3.94	.583
F8 Female	4.17	.608

Table 3

ANOVA - Coached Group Factor Results Based on Gender

		Sum of Squares	*df*	Mean Square	*F*	Sig
Factor 1	Between Groups	.013	1	.013	.058	.813
Factor 2	Between Groups	.011	1	.011	.051	.823
Factor 3	Between Groups	.152	1	.152	.289	.596
Factor 4	Between Groups	.088	1	.088	.294	.594
Factor 5	Between Groups	.795	1	.795	3.149	.090
Factor 6	Between Groups	.010	1	.010	.030	.864
Factor 7	Between Groups	.001	1	.001	.002	.967
Factor 8	Between Groups	.300	1	.300	.838	.370

Table 4 shows the descriptive statistics for school level in each of the eight factors for coached participants on the posttest. Table 5 shows the one-way ANOVA results used to determine if any significant differences existed in mean posttest results for each factor based on the school level of participants. Although the mean for elementary was higher than the mean for

high school in each factor, no significant differences were found in the perception responses among the levels of elementary, middle, and high school for coached participants in any of the eight factors ($p<.05$) on the SLSES posttest.

Table 4

Coached Group School Level Descriptive Statistics for Factors 1-8

	Mean	Standard Deviation
F1 Elementary	4.35	.501
F1 Middle	4.29	.387
F1 High	4.15	.489
F2 Elementary	4.39	.337
F2 Middle	4.21	.297
F2 High	4.06	.540
F3 Elementary	4.20	.690
F3 Middle	3.58	1.067
F3 High	3.83	.595
F4 Elementary	4.29	.621
F4 Middle	4.00	.544
F4 High	4.11	.519
F5 Elementary	4.38	.448
F5 Middle	4.50	.333
F5 High	4.06	.583
F6 Elementary	4.33	.544
F6 Middle	4.17	.694
F6 High	4.06	.547
F7 Elementary	4.57	.460
F7 Middle	4.08	.833
F7 High	4.19	.540
F8 Elementary	4.43	.535
F8 Middle	4.12	.479
F8 High	3.88	.608

Table 5

ANOVA - Coached Group Factor Results Based on School Level

		Sum of Squares	*df*	Mean Square	*F*	Sig
Factor 1	Between Groups	.175	2	.088	.382	.687
Factor 2	Between Groups	.480	2	.240	1.157	.335
Factor 3	Between Groups	1.045	2	.523	1.028	.376
Factor 4	Between Groups	.236	2	.118	.383	.686
Factor 5	Between Groups	.816	2	.408	1.546	.238
Factor 6	Between Groups	.341	2	.171	.524	.600
Factor 7	Between Groups	.835	2	.417	1.271	.302
Factor 8	Between Groups	1.362	2	.681	2.107	.148

Table 6 shows the descriptive statistics for years of educational experience in each of the eight factors for coached participants on the posttest. Table 7 shows the one-way ANOVA results used to determine if any significant differences existed in mean posttest results for each factor based on the years of educational experience of coached participants. No significant differences were found among any range of experience in any of the eight factors ($p<.05$) on the SLSES posttest for coached participants.

Table 6

Coached Group Experience Descriptive Statistics for Factors 1-8

	Mean	Standard Deviation
F1 6 - 10	3.90	.164
F1 11 - 15	4.24	.614
F1 16 - 20	4.34	.260
F1 21 - 25	4.31	.396
F2 6 - 10	4.10	.297
F2 11 - 15	4.14	.583
F2 16 - 20	4.20	.217
F2 21 - 25	4.31	.519
F3 6 - 10	3.33	1.155
F3 11 - 15	3.93	.717
F3 16 - 20	4.13	.606
F3 21 - 25	3.93	.548
F4 6 - 10	4.00	.667
F4 11 - 15	4.00	.588
F4 16 - 20	4.20	.447
F4 21 - 25	4.47	.447
F5 6 - 10	4.33	.333
F5 11 - 15	4.17	.572
F5 16 - 20	4.53	.380
F5 21 - 25	4.00	.624
F6 6 - 10	3.89	.509
F6 11 - 15	4.17	.614
F6 16 - 20	4.27	.279
F6 21 - 25	4.20	.767
F7 6 - 10	4.00	1.000
F7 11 - 15	4.27	.516
F7 16 - 20	4.47	.380
F7 21 - 25	4.33	.707
F8 6 - 10	3.83	.286
F8 11 - 15	4.10	.658
F8 16 - 20	4.40	.652
F8 21 - 25	3.90	.548

Table 7

ANOVA - Coached Group Factor Results Based on Experience

		Sum of Squares	*df*	Mean Square	*F*	Sig
Factor 1	Between Groups	.417	3	.139	.609	.617
Factor 2	Between Groups	.127	3	.042	.178	.910
Factor 3	Between Groups	1.252	3	.417	.797	.511
Factor 4	Between Groups	.806	3	.269	.911	.454
Factor 5	Between Groups	.797	3	.266	.952	.435
Factor 6	Between Groups	.286	3	.095	.275	.842
Factor 7	Between Groups	.423	3	.141	.384	.766
Factor 8	Between Groups	.859	3	.286	.781	.519

Table 8 shows the descriptive statistics for age in each of the eight factors for coached participants on the posttest. Table 9 shows the one-way ANOVA results used to determine if any significant differences existed in mean posttest results for each factor based on the ages of coached participants. No significant differences were found among any age ranges in any of the eight factors ($p<.05$) of coached participants on the SLSES posttest.

Table 8

Coached Group Age Range Descriptive Statistics for Factors 1-8

	Mean	Standard Deviation
F1 30 - 35	4.18	.564
F1 36 - 40	4.08	.565
F1 41 - 45	4.40	.256
F1 46 - 50	4.29	.503
F1 56 - 60	4.43	-
F2 30 - 35	4.32	.513
F2 36 - 40	3.96	.576
F2 41 - 45	4.31	.383
F2 46 - 50	4.19	.346
F2 56 - 60	4.57	-
F3 30 - 35	3.75	1.258
F3 36 - 40	3.86	.634
F3 41 - 45	4.00	.408
F3 46 - 50	3.94	.800
F3 56 - 60	4.00	-
F4 30 - 35	4.25	.739
F4 36 - 40	3.95	.525
F4 41 - 45	4.33	.471
F4 46 - 50	4.06	.534
F4 56 - 60	4.67	-
F5 30 - 35	4.50	.430
F5 36 - 40	4.05	.591
F5 41 - 45	4.33	.333
F5 46 - 50	4.11	.655
F5 56 - 60	4.67	-
F6 30 - 35	4.17	.694
F6 36 - 40	4.05	.525
F6 41 - 45	4.40	.435
F6 46 - 50	4.06	.712
F6 56 - 60	4.33	-
F7 30 - 35	4.25	.957
F7 36 - 40	4.05	.448
F7 41 - 45	4.60	.435
F7 46 - 50	4.33	.596
F7 56 - 60	4.33	-
F8 30 - 35	4.13	.629
F8 36 - 40	3.93	.673
F8 41 - 45	4.00	.354
F8 46 - 50	4.25	.758
F8 56 - 60	4.50	-

Note. Standard deviation not available for age range 56-60 because only one participant existed in this demographic category.

Table 9

ANOVA - Coached Group Factor Results Based on Age

		Sum of Squares	*df*	Mean Square	*F*	Sig
Factor 1	Between Groups	.366	4	.092	.375	.823
Factor 2	Between Groups	.664	4	.166	.754	.568
Factor 3	Between Groups	.175	4	.044	.071	.990
Factor 4	Between Groups	.801	4	.200	.643	.639
Factor 5	Between Groups	.853	4	.213	.732	.582
Factor 6	Between Groups	.472	4	.118	.333	.852
Factor 7	Between Groups	.911	4	.228	.632	.646
Factor 8	Between Groups	.549	4	.137	.340	.848

Next, an ANCOVA was conducted on each of the eight SLSES factors to determine if significant differences existed in pre- and post-test results for coached participants. Mean pre- and post-test results in each of the eight SLSES factors were used as the dependent variable. Test type, either pretest or posttest, was used as the fixed factor in each ANCOVA. Mean pretest results in each of the eight SLSES factors were used as the covariate. Because no significant differences were found in gender, level, experience, or age in the coached participants using ANOVA tests, no demographic items were used as a covariate.

Results of the ANCOVA tests found that statistically significant differences existed between pre- and post-test results in each of the eight SLSES factors for coached participants when controlling for pretest scores. There was a significant impact of test type on test results for factor F1 after controlling for pretest results for factor F1, $F(1,43) = 65.287$, $p<.001$. There was a significant impact of test type on test results for factor F2 after controlling for pretest results for factor F2, $F(1,43) = 49.619$, $p<.001$. There was a significant impact of test type on test results for factor F3 after controlling for pretest results for factor F3, $F(1,43) = 28.352$, $p<.001$. There was a significant impact of test type on test results for factor F4 after controlling for pretest results for factor F4, $F(1,43) = 32.861$, $p<.001$. There was a significant impact of test type on

test results for factor F5 after controlling for pretest results for factor F5, $F(1,43) = 28.889$, $p<.001$. There was a significant impact of test type on test results for factor F6 after controlling for pretest results for factor F6, $F(1,43) = 50.322$, $p<.001$. There was a significant impact of test type on test results for factor F7 after controlling for pretest results for factor F7, $F(1,43) = 32.548$, $p<.001$. There was a significant impact of test type on test results for factor F8 after controlling for pretest results for factor F8, $F(1,43) = 26.831$, $p<.001$. Mean posttest scores were greater than mean pretest scores for each factor. Table 10 shows the descriptive statistics for pre- and post-test results in each of the eight factors for coached participants. Table 11 shows the ANCOVA results used to determine if any significant differences existed between pre- and post-test scores for coached participants using pretest scores as a covariate.

Table 10

Coached Group Test Descriptive Statistics for Factors 1-8

	Mean	Standard Deviation
F1 Pretest	3.32	.502
F1 Posttest	4.24	.465
F2 Pretest	3.29	.549
F2 Posttest	4.19	.459
F3 Pretest	3.03	.619
F3 Posttest	3.90	.714
F4 Pretest	3.30	.619
F4 Posttest	4.14	.540
F5 Pretest	3.36	.887
F5 Posttest	4.23	.526
F6 Pretest	3.16	.593
F6 Posttest	4.16	.558
F7 Pretest	3.43	.623
F7 Posttest	4.29	.580
F8 Pretest	3.24	.752
F8 Posttest	4.09	.596

Table 11

ANCOVA - Coached Group Pre- and Post-Test Scores with Pretest Scores as Covariate

		Sum of Squares	*df*	Mean Square	*F*	Sig
Factor 1	Pretest	3.907	1	3.907	26.243	.000
	Test Type	9.719	1	9.719	65.287	.000
	Error	6.401	43	.149		
Factor 2	Pretest	3.289	1	3.289	17.741	.000
	Test Type	9.200	1	9.200	49.619	.000
	Error	7.972	43	.185		
Factor 3	Pretest	6.536	1	6.536	21.454	.000
	Test Type	8.693	1	8.693	28.532	.000
	Error	13.101	43	.305		
Factor 4	Pretest	4.198	1	4.198	16.977	.000
	Test Type	8.126	1	8.126	32.861	. 000
	Error	10.633	43	.247		
Factor 5	Pretest	10.478	1	10.478	34.835	.000
	Test Type	8.693	1	8.693	28.889	. 000
	Error	12.934	43	.301		
Factor 6	Pretest	4.782	1	4.782	20.925	.000
	Test Type	11.500	1	11.500	50.322	. 000
	Error	9.827	43	.229		
Factor 7	Pretest	4.834	1	4.834	18.712	.000
	Test Type	8.408	1	8.408	32.548	. 000
	Error	11.108	43	.258		
Factor 8	Pretest	7.013	1	7.013	22.763	.000
	Test Type	8.266	1	8.266	26.831	.000
	Error	13.248	43	.308		

Research Question Two

To answer the second research question, a one-way analysis of variance (ANOVA) was conducted to determine if any significant differences existed in the noncoached group in gender, level, years of experience in education, or age for each of the eight survey factors on the SLSES posttest. Table 12 shows the descriptive statistics for gender in each of the eight factors for noncoached participants on the posttest. Table 13 shows the one-way ANOVA results used to determine if any significant differences existed in mean posttest results for each factor based on

the gender of noncoached participants. Although the mean posttest score for males was higher than the mean posttest score of females in each factor, no significant differences were found between male and female noncoached participants in any of the eight factors ($p<.05$) on the SLSES posttest.

Table 12

Noncoached Gender Descriptive Statistics for Factors 1-8

	Mean	Standard Deviation
F1 Male	3.86	.608
F1 Female	3.57	.365
F2 Male	4.07	.509
F2 Female	3.77	.218
F3 Male	3.83	1.181
F3 Female	2.73	1.234
F4 Male	3.83	.707
F4 Female	3.66	.408
F5 Male	4.50	.707
F5 Female	4.13	.959
F6 Male	4.00	.948
F6 Female	3.73	.547
F7 Male	3.84	1.181
F7 Female	3.60	.435
F8 Male	4.00	1.414
F8 Female	3.60	.548

Table 13

ANOVA - Noncoached Factor Results Based on Gender

		Sum of Squares	*df*	Mean Square	*F*	Sig
Factor 1	Between Groups	.118	1	.118	.657	.455
Factor 2	Between Groups	.129	1	.129	1.433	.285
Factor 3	Between Groups	1.732	1	1.732	1.156	.331
Factor 4	Between Groups	.037	1	.037	.161	.705
Factor 5	Between Groups	.191	1	.191	.229	.652
Factor 6	Between Groups	.103	1	.103	.245	.642
Factor 7	Between Groups	.079	1	.079	.183	.686
Factor 8	Between Groups	.229	1	.229	.357	.576

Table 14 shows the descriptive statistics for school level in each of the eight factors for noncoached participants on the posttest. Table 15 shows the one-way ANOVA results used to determine if any significant differences existed in mean posttest results for each factor based on the school level of noncoached participants. Although the mean posttest score for high school was higher than the mean posttest score for elementary school in each factor, no significant differences were found among elementary, middle, and high school noncoached participants in any of the eight factors ($p<.05$) on the SLSES posttest.

Table 14

Noncoached School Level Descriptive Statistics for Factors 1-8

	Mean	Standard Deviation
F1 Elementary	3.43	.197
F1 Middle	3.14	-
F1 High	3.90	.358
F2 Elementary	3.64	.099
F2 Middle	3.57	-
F2 High	4.04	.297
F3 Elementary	3.00	1.414
F3 Middle	1.00	-
F3 High	3.59	.789
F4 Elementary	3.67	.000
F4 Middle	3.00	-
F4 High	3.92	.420
F5 Elementary	3.84	1.648
F5 Middle	5.00	-
F5 High	4.25	.500
F6 Elementary	3.67	.940
F6 Middle	3.33	-
F6 High	4.00	.547
F7 Elementary	3.17	.233
F7 Middle	3.67	-
F7 High	3.92	.688
F8 Elementary	3.50	.707
F8 Middle	4.00	-
F8 High	3.75	.957

Note. Standard deviation not available for middle because only one participant existed in this demographic category.

Table 15

ANOVA - Noncoached Factor Results Based on School Level

		Sum of Squares	*df*	Mean Square	*F*	Sig
Factor 1	Between Groups	.597	2	.298	2.817	.172
Factor 2	Between Groups	.303	2	.152	2.214	.225
Factor 3	Between Groups	5.352	2	2.676	2.767	.176
Factor 4	Between Groups	.675	2	.338	2.553	.193
Factor 5	Between Groups	.906	2	.453	.523	.628
Factor 6	Between Groups	.417	2	.208	.468	.657
Factor 7	Between Groups	.755	2	.378	1.023	.438
Factor 8	Between Groups	.179	2	.089	.110	.899

Table 16 shows the descriptive statistics for years of educational experience in each of the eight factors for noncoached participants on the posttest. Table 17 shows the one-way ANOVA results used to determine if any significant differences existed in mean posttest results for each factor based on the years of educational experience of noncoached participants. No significant differences were found among any range of experience in any of the eight factors ($p<.05$) on the SLSES posttest for noncoached participants.

Table 16

Noncoached Experience Descriptive Statistics for Factors 1-8

	Mean	Standard Deviation
F1 11 - 15	3.54	.358
F1 16 - 20	4.08	.304
F1 21 - 25	3.29	-
F2 11 - 15	3.71	.203
F2 16 - 20	4.22	.304
F2 21 - 25	3.71	-
F3 11 - 15	2.75	1.258
F3 16 - 20	4.17	.707
F3 21 - 25	2.00	-
F4 11 - 15	3.50	.431
F4 16 - 20	4.17	.233
F4 21 - 25	3.67	-
F5 11 - 15	4.50	.577
F5 16 - 20	4.50	.707
F5 21 - 25	2.67	-
F6 11 - 15	3.75	.501
F6 16 - 20	4.34	.474
F6 21 - 25	3.00	-
F7 11 - 15	3.50	.431
F7 16 - 20	4.34	.474
F7 21 - 25	3.00	-
F8 11 - 15	3.50	.577
F8 16 - 20	4.50	.707
F8 21 - 25	3.00	-

Note. Standard deviation not available for 21-25 because only one participant existed in this demographic category.

Table 17

ANOVA - Noncoached Factor Results Based on Experience

		Sum of Squares	*df*	Mean Square	*F*	Sig
Factor 1	Between Groups	.544	2	.272	2.280	.218
Factor 2	Between Groups	.361	2	.181	3.351	.140
Factor 3	Between Groups	3.971	2	1.986	1.513	.324
Factor 4	Between Groups	.592	2	.296	1.934	.259
Factor 5	Between Groups	2.870	2	1.435	3.824	.118
Factor 6	Between Groups	1.223	2	.611	2.506	.197
Factor 7	Between Groups	1.449	2	.724	3.704	.123
Factor 8	Between Groups	1.929	2	.964	2.571	.191

Table 18 shows the descriptive statistics for age in each of the eight factors for noncoached participants on the posttest. Table 19 shows the one-way ANOVA results used to determine if any significant differences existed in mean posttest results for each factor based on the ages of noncoached participants. No significant differences were found among any age ranges in any of the eight factors ($p<.05$) of noncoached participants on the SLSES posttest.

Table 18

Noncoached Age Range Descriptive Statistics for Factors 1-8

	Mean	Standard Deviation
F1 30 - 35	4.00	-
F1 36 - 40	3.62	.598
F1 41 - 45	3.86	-
F1 46 - 50	3.43	.198
F2 30 - 35	4.00	-
F2 36 - 40	3.90	.461
F2 41 - 45	4.00	-
F2 46 - 50	3.64	.099
F3 30 - 35	3.00	-
F3 36 - 40	2.89	1.837
F3 41 - 45	3.67	-
F3 46 - 50	3.00	1.414
F4 30 - 35	4.00	-
F4 36 - 40	3.55	.693
F4 41 - 45	4.00	-
F4 46 - 50	3.67	.000
F5 30 - 35	4.00	-
F5 36 - 40	4.67	.577
F5 41 - 45	4.00	-
F5 46 - 50	3.83	1.648
F6 30 - 35	4.00	-
F6 36 - 40	3.78	.774
F6 41 - 45	4.00	-
F6 46 - 50	3.67	.940
F7 30 - 35	4.00	-
F7 36 - 40	3.78	.840
F7 41 - 45	4.00	-
F7 46 - 50	3.17	.233
F8 30 - 35	3.00	-
F8 36 - 40	4.00	1.000
F8 41 - 45	4.00	-
F8 46 - 50	3.50	.707

Note. Standard deviation not available for age ranges 30-35 and 41-45 because only one participant existed in these demographic categories.

Table 19

ANOVA - Noncoached Factor Results Based on Age

		Sum of Squares	*df*	Mean Square	*F*	Sig
Factor 1	Between Groups	.266	3	.089	.352	.793
Factor 2	Between Groups	.142	3	.047	.325	.810
Factor 3	Between Groups	.469	3	.156	.054	.981
Factor 4	Between Groups	.245	3	.082	.255	.854
Factor 5	Between Groups	.989	3	.330	.293	.830
Factor 6	Between Groups	.118	3	.039	.056	.979
Factor 7	Between Groups	.764	3	.255	.521	.697
Factor 8	Between Groups	.929	3	.310	.371	.781

Next, an ANCOVA was conducted on each of the eight SLSES factors to determine if significant differences existed in the posttest results for coached and noncoached participants. Mean posttest results in each of the eight SLSES factors were used as the dependent variable in each ANCOVA. Whether each participant was coached or noncoached was used as the fixed factor in each ANCOVA. Mean pretest results in each of the eight SLSES factors were used as the covariate in each ANCOVA. Because no significant differences existed in gender, level, experience, or age in both the coached and noncoached participants using ANOVA tests, no demographic items were used as a covariate.

Results of the ANCOVA tests found that statistically significant differences existed in two of the eight SLSES factors between coached and noncoached groups on posttest results when controlling for pretest scores. There was a significant impact of coaching on posttest results for factor F1 after controlling for pretest results for factor F1, $F(1,27) = 9.062$, $p<.01$. There was a significant impact of coaching on posttest results for factor F7 after controlling for pretest results for factor F7, $F(1,27) = 5.796$, $p<.05$. Mean posttest scores for coached participants were greater than mean posttest scores for noncoached participants in each factor except for F5. Table 20 shows the descriptive statistics for coached and noncoached groups in

each of the eight factors on the posttest. Table 21 shows the ANCOVA results used to determine if any significant differences existed between the posttest scores of coached and noncoached participants in each of the eight SLSES factors using pretest scores as a covariate.

Table 20

Coached and Noncoached Descriptive Statistics for Factors 1-8

	Mean	Standard Deviation
F1 Noncoached	3.65	.412
F1 Coached	4.24	.465
F2 Noncoached	3.86	.310
F2 Coached	4.19	.459
F3 Noncoached	3.05	1.240
F3 Coached	3.90	.714
F4 Noncoached	3.71	.448
F4 Coached	4.14	.540
F5 Noncoached	4.24	.853
F5 Coached	4.23	.526
F6 Noncoached	3.81	.605
F6 Coached	4.16	.558
F7 Noncoached	3.67	.610
F7 Coached	4.29	.580
F8 Noncoached	3.71	.756
F8 Coached	4.09	.596

Table 21

ANCOVA - Coached and Noncoached Posttest Scores With Pretest Scores as Covariate

		Sum of Squares	*df*	Mean Square	*F*	Sig
Factor 1	Pretest	.406	1	.406	2.040	.165
	Coaching	1.804	1	1.804	9.062	.006
	Error	5.374	27	.199		
Factor 2	Pretest	.014	1	.014	.074	.787
	Coaching	.556	1	.556	2.892	.101
	Error	5.193	27	.192		
Factor 3	Pretest	2.861	1	2.861	4.397	.045
	Coaching	1.824	1	1.824	2.803	.106
	Error	17.568	27	.651		
Factor 4	Pretest	.004	1	.004	.013	.911
	Coaching	.993	1	.993	3.524	.071
	Error	7.606	27	.282		
Factor 5	Pretest	1.137	1	1.137	3.291	.081
	Coaching	.068	1	.068	.197	.660
	Error	9.330	27	.346		
Factor 6	Pretest	.396	1	.396	1.236	.276
	Coaching	.780	1	.780	2.430	.131
	Error	8.663	27	.321		
Factor 7	Pretest	.131	1	.131	.372	.547
	Coaching	2.040	1	2.040	5.796	.023
	Error	9.501	27	.352		
Factor 8	Pretest	.348	1	.348	.862	.362
	Coaching	.938	1	.938	2.321	.139
	Error	10.907	27	.404		

Summary

Demographics for the coached and noncoached participants groups were similar. Results of ANOVA testing on each demographic factor for both coached and noncoached groups revealed that no demographic elements showed significant differences in posttest results. Therefore, no demographic areas were used as covariates in later analysis.

Results of the ANCOVA testing for research question one showed statistically significant differences for coached participants in each of the eight factors of the SLSES posttest results.

ANCOVA tests compared coached participant test results based on test type, pre or post, using pretest scores as a covariate. All statistically significant results were at $p<.001$.

Results of the ANCOVA testing for research question two showed statistically significant differences between coached and noncoached participants in two factors on the SLSES posttest. ANCOVA tests compared posttest scores of participants based on whether they were coached or noncoached using pretest scores as a covariate. Statistically significant results were found in groups in F1 and F7 with $p<.01$ and $p<.05$ respectively.

CHAPTER 5: CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Introduction

This chapter addresses conclusions, implications, and recommendations of this study. Findings from the statistical analysis are presented, and conclusions are drawn from these results. Limitations and implications of the findings are addressed. Finally, recommendations for future research are provided.

Discussion of Findings

The purpose of this study was to determine whether leadership coaching is an effective form of professional learning for newly appointed assistant principals. The research questions answered in this study were:

(1) Does leadership coaching make a difference in the perception of new assistant principals regarding their self-efficacy?

(2) Is there a difference in self-efficacy perceptions of new assistant principals who received leadership coaching and those who did not?

The SLSES survey instrument used to collect participant perceptions was designed to measure the self-efficacy of school leaders within the context of professional learning activities. Statistically significant results were found in the analysis of each research question.

Research Question One

Results of the ANOVA testing on each demographic item demonstrated no significant difference in the posttest results of coached participants. This result implied that the perceived self-efficacy of coached participants was not impacted by gender, school level, years of educational experience, or age. Therefore, leadership coaching may be considered a form of

professional learning that provides equal opportunity to new assistant principals regardless of gender, level, experience, or age.

Results of ANCOVA testing found that posttest results were significantly different from pretest results for coached participants when controlled for pretest scores. Furthermore, coached participants had higher mean posttest scores than pretest scores in each of the eight factors. These results implied that the experiences of coached participants positively impacted their perceived self-efficacy on each factor measured by the SLSES. These results agreed with those of Moen and Allgood (2009) who found statistically significant results when comparing pre- and post-test measurements of overall self-efficacy in coached participants as well as in all four sub-scales of self-efficacy measured. Similar results by Baron and Morin (2010) also found statistically significant differences in the post-training self-efficacy of coached participants.

The mean results of posttest scores yielded close to a full point gain over the pretest scores in each SLSES factor for coached participants. The largest mean gain of one full point was found in F6, adhering to community and policy demands. Relatively high mean gains were also found in F1, creating an appropriate structure, and F2, leading and managing the learning organization, with respective point gains of .92 and .90. The smallest mean gain of .84 was found in F4, developing a positive climate and managing conflicts. With all mean gains on the posttest between .84 and 1.00, these results implied that coached participants experienced positive gains in all areas of self-efficacy covered by the SLSES instrument. Furthermore, factor F6 had the largest mean gain while factor F4 had the smallest mean gain.

ANCOVA results were significant at the $p<.001$ level for each SLSES factor. The largest F-score of 65.287 was found in F1, creating an appropriate structure. Large F-scores of 50.322 and 49.619 were also found in F6, adhering to community and policy demands, and F2, leading

and managing the organization, respectively. Overall, results implied that the greatest impact on the self-efficacy of new assistant principals who experienced leadership coaching were in SLSES factors F1, F2, and F6. Baron and Morin (2010) used a hierarchical multiple regression analysis to test their hypothesis that yielded similar results in a similar study with managers in a manufacturing company.

Research Question Two

Just as with the coached group of participants, results of ANOVA testing found no significant differences in the way noncoached participants perceived their self-efficacy on the SLSES post-assessment. Demographic results overall were also similar between the coached and noncoached groups. These results implied that analyses were conducted between comparable groups of assistant principals and that self-efficacy perceptions overall were unaffected by gender, school level, experience, or age.

Results of the ANCOVA tests between posttest scores of coached and noncoached participants when controlling for pretest scores yielded several noteworthy findings. First, the mean posttest scores for coached participants were greater than those of noncoached participants in each of the eight SLSES factors except for F5, evaluating classroom practices. The highest mean posttest score difference of .85 was found in F3, school self-evaluation for school improvement. Relatively high mean differences of .62 and .59 were also found in F7, monitoring learning, and F1, creating an appropriate structure, respectively. The lowest mean difference in which coached posttest scores were greater than noncoached posttest scores was found in F2, leading and managing the learning organization, with a difference of .33. Only F5, evaluating classroom practices, showed a higher posttest mean for noncoached participants; however, the difference was only .01 points.

Second, significant differences were found on the ANCOVA tests between coached and noncoached group mean posttest scores in F1, creating an appropriate structure, at the $p<.01$ level and F7, monitoring learning, at the $p<.05$ level. Mean posttest scores were higher for coached participants in each of these two factors inferring that coached participants had significantly higher gains in perceived self-efficacy in SLSES factors one and seven. F1 contained seven of the 31 items on the SLSES and F7 contained three items. These results implied that coached participants experienced significant improvement over noncoached participants in two self-efficacy factors that covered 10 of the 31 items on the SLSES.

Finally, three factors showed results that were close to significant in ANCOVA testing between coached and noncoached participants. Coached participants had a higher mean posttest score than noncoached participants in F2, leading and managing the learning organization, with $F(1,27) = 2.892$, $p=.101$; F3, school self-evaluation for school improvement, with $F(1,27) = 2.803$, $p=.106$; and F4, developing a positive climate and managing conflicts, with $F(1,27) = 3.524$, $p=.071$. Furthermore, F3 had a corrected model of statistical significance with $F(2,27) = 5.178$, $p<.05$. With additional participants in the noncoached group, it is possible that F2, F3, and F4 would have shown significant differences on ANCOVA tests between the coached and noncoached assistant principals.

Overall, results for the second research question agreed with a similar study conducted by Moen and Allgood (2009) that had a sample size of $N=144$ CEOs and middle managers. Using a paired sample *t*-test to compare pre- and post-test scores, they found a significant difference ($p<.001$) in the overall self-efficacy of the experimental group but not the control group; the experimental group experienced executive coaching while the control group did not.

In summary, participants of this study who experienced leadership coaching showed statistically significant gains of posttest scores over pretest scores in all eight factors of self-efficacy measured by the SLSES instrument when controlling for pretest scores. The results of research question one were similar to other quantitative studies conducted outside of education using different methods of statistical analysis (Moen & Allgood, 2009; Baron & Morin, 2010). Participants who experienced leadership coaching had higher posttest means than participants who were not coached in seven of the eight factors measured by the SLSES instrument. Two of the SLSES factors, F1 and F7, showed statistically significant differences in posttest scores between the coached and noncoached groups when controlling for pretest scores. F1 and F7 accounted for 10 of the 31 SLSES items. The additional factors of F2, F3, and F4 showed results close to significance between coached and noncoached groups. Results of research question two agreed with findings of previous quantitative studies outside of education that used different methods of statistical analysis (Moen & Allgood, 2009).

Limitations of Findings

As noted in previous sections, participants for this study were limited, particularly with the noncoached group. Because of the small sample size in this study, results of statistical analysis had at least three findings that may have been impacted. Furthermore, due to the overall sample size, findings from this study cannot be broadly applied to the field of coaching in education.

Collected demographics for this study included gender, age, experience, and school level but did not collect information on race or ethnicity. Results showed that the collected demographic information did not have a significant impact on perceived self-efficacy in either

group of participants. However, it is unknown whether race or ethnicity had any impact on the perceived self-efficacy of participants.

In addition to the experience of leadership coaching, it is unknown what other experiences may have contributed to changes in the perceived self-efficacy of participants. As discussed in the literature review, mentoring is an effective method of development for assistant principals. However, mentoring was not a variable controlled for in this study.

Finally, this study compared mean results of the eight self-efficacy factors measured by the SLSES instrument, but an overall comparison of the singular construct of self-efficacy was conducted. Moen and Allgood (2009) compared results on sub scales of self-efficacy as well as a single, overall measure of self-efficacy. Therefore, results of this study can only be considered in terms of the self-efficacy factors determined by Petridou et al. (2014) in their development of the SLSES instrument.

Implications for Future Practice

The results of this study confirm for new assistant principals what Moen and Allgood (2009) and Baron and Morin (2010) found in previous studies outside of education. Although the limitations of this study prohibit widespread application, the results were clearly positive for the school district that participated in the study. Therefore, leadership coaching should be considered as an effective professional learning practice for new assistant principals in the school district of study. Nearby school districts should take note of the positive outcomes possible with leadership coaching and consider planning leadership coaching experiences for rising assistant principals.

All school districts should carefully consider the professional learning process for new assistant principals. As reviewed in the literature, mentoring is an effective method of

development, but little evidence exists to support other forms of effective professional learning for new assistant principals. This study contributes to a growing body of research that suggests leadership coaching as another effective method of developing new assistant principals. District leaders should continually examine the latest research and trends in education to find the most effective methods of improvement. The growth and development of assistant principals, and school leaders in general, must be a key component to the improvement and strategic planning processes for school districts.

An area not covered in this study that is impactful to the implementation of a leadership-coaching program is the development process for leadership coaches. As school districts consider leadership coaching for new assistant principals, district leaders must consider how they will procure or develop trained leadership coaches. With leadership coaching in its infancy in education, school districts are unlikely to invest large amounts of funding in leadership coaching. However, viable partnerships with local universities may hold the key to developing coaches. The participating school district in this study utilized existing staff trained as leadership coaches at a local university to administer leadership coaching to new assistant principals. As a result, the district incurred no costs for coaching for new assistant principals. School districts interested in developing a leadership coaching process for new assistant principals should consider the benefits and cost-effectiveness of partnering with local universities.

Recommendations for Future Research

A noted limitation of this study was the number of participants. Utilizing one single school district in future studies may provide similarly limited results depending on the number of new assistant principals in the district. Therefore, it is recommended that a similar study be conducted utilizing more participants from additional districts. Further study may require a

multi-year commitment depending on the number of available coaches and eligible participants, but results could provide broader evidence for the use of leadership coaching as an effective form of professional learning for new assistant principals.

Another recommendation for future research is to examine the timeframe during a new assistant principal's first year that leadership coaching is most effective. Some of the participants in this study experienced leadership coaching prior to the start of the school year through the first few months of school. Other participants experienced leadership coaching several months after the start of the school year. While this study controlled for such differences by utilizing pretest scores as a covariate, further analysis could help determine a timeline for effective coaching practices with new assistant principals.

Qualitative data from coached participants could provide further analysis to inform the outcomes of this study. A qualitative study recording the experiences of both coached and noncoached participants would provide insight to the quantitative results of this study. While this study provided evidence of the effectiveness of leadership coaching on the self-efficacy of new assistant principals, qualitative data on participants could help determine the specific components of coaching that were most effective and what other experiences may have contributed to an increase in perceived self-efficacy.

Finally, as noted in the limitations, this study did not address the demographic factors of race or ethnicity. To better understand the influences of demographics on the perceived self-efficacy of new assistant principals, further studies involving leadership coaching as a form of professional learning should incorporate analysis that addresses the race and ethnicity of participants. Results from such a study could be used to inform practices related to the

development of new assistant principals and could further establish leadership coaching as a form of professional learning unaffected by participant demographics.

Conclusion

Leadership coaching remains underutilized and understudied in the field of education. However, as a form of professional learning, leadership coaching is beginning to gain attention. The results of this study join a handful of other studies that demonstrate the effectiveness of leadership coaching on self-efficacy. Concurrent studies being conducted through KSU will serve to enhance the results of this study and contribute to the literature on professional learning for new assistant principals.

This study was completed in conjunction with three qualitative studies that utilized a sub-section of coached participants. As a result, these studies will serve to greatly enhance the understanding of leadership coaching and effective professional learning for new assistant principals. The school district participating in all four studies saw the benefits of leadership coaching over the course of the studies and plans to incorporate leadership coaching as a regular part of new assistant principal development.

The results of this study were significant to the literature on leadership coaching in education, the growth of participants of the study, and the practices of the participating school district. Although the results of this study were not applicable on a broad scale due to the limited number of participants, the implications of this study and experiences of participants were enough to encourage further development of a leadership-coaching program in the participating school district. Perhaps the implementation of this leadership coaching program will encourage surrounding school districts to consider similar practices, providing an opportunity for continued

research on leadership coaching as an effective form of professional learning for new assistant principals.

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APPENDIX

A. Institutional Review Board (IRB) Approval from

Study 18-364: The Effect of Leadership Coaching on the Self-Efficacy of New Assistant Principals

irb@kennesaw.edu

Fri 2/9/2018 2:00 PM

To:Anthony Manzella <amanzell@kennesaw.edu>;

Cc:irb <irb@kennesaw.edu>; Arvin Johnson <ajohn560@kennesaw.edu>;

2/9/2018

Anthony Michael Manzella, Student
KSU Department of Educational Leadership

RE: Your followup submission of 2/8/2018, Study #18-364: The Effect of Leadership Coaching on the Self-Efficacy of New Assistant Principals

Dear Mr. Manzella,

Your application for the new study listed above has been administratively reviewed. This study qualifies as exempt from continuing review under DHHS (OHRP) Title 45 CFR Part 46.101(b)(2) - educational tests, surveys, interviews, public observations. The consent procedures described in your application are in effect. You are free to conduct your study.

NOTE: All surveys, recruitment flyers/emails, and consent forms must include the IRB study number noted above, prominently displayed on the first page of all materials.

Please note that all proposed revisions to an exempt study require submission of a Progress Report and IRB review prior to implementation to ensure that the study continues to fall within an exempted category of research. A copy of revised documents with a description of planned changes should be submitted to irb@kennesaw.edu for review and approval by the IRB.

Thank you for keeping the board informed of your activities. Contact the IRB at irb@kennesaw.edu or at (470) 578-2268 if you have any questions or require further information.

Sincerely,

Christine Ziegler, Ph.D.
KSU Institutional Review Board Director and Chair

cc: ajohn560@kennesaw.edu

B. Permission to Conduct Data Collection

[redacted]

REQUEST FOR PERMISSION TO CONDUCT DATA COLLECTION ACTIVITIES WITHIN THE SYSTEM

Name Michael Manzella

[redacted]

College/University Supervising Activities Kennesaw State University

Degree in Progress(Level/Area) Doctorate in Educational Leadership

Locations for Data Collection Online Only

Date of Request 2/21/18 Requested Date(s) for Data Collection 2/21/18-6/8/18

Professor's Name Dr. Arvin Johnson Phone #/Email ajohn560@kennesaw.edu

Include with this request:

- A letter from your supervising professor on college or university letterhead indicating support for your research and his/her confirmation of data collection validity.
- A brief summary of the issues being researched and the type of data collection you are requesting to conduct. (Page 2 of this form).
- Method of data collection assessment (Page 2 of this form); Number of respondents, etc.
- Copy of interview questions, surveys, etc. that will be used. If student data/videos are used, a notarized "Release of Educational Records for Research Purposes Confidentiality Statement" and a copy of a letter requesting parent permission to use the data will be required.

I, Michael Manzella do hereby submit to **not** hold [redacted] liable for any findings, or commentary involved in this research. I understand that without the express written permission of the [redacted] I am not authorized to conduct any data collection involving system employees or students and/or any other information that is protected by Federal or State Law. **Furthermore, a copy of all findings and data collection instruments will be made available to** [redacted] **All research is to be sent to the Office of Assessment upon completion of the project.**

Signature [redacted] Date 2/20/18

Signature of Principal (if applicable) [redacted] Date 2/21/18

Send completed form to: [redacted]

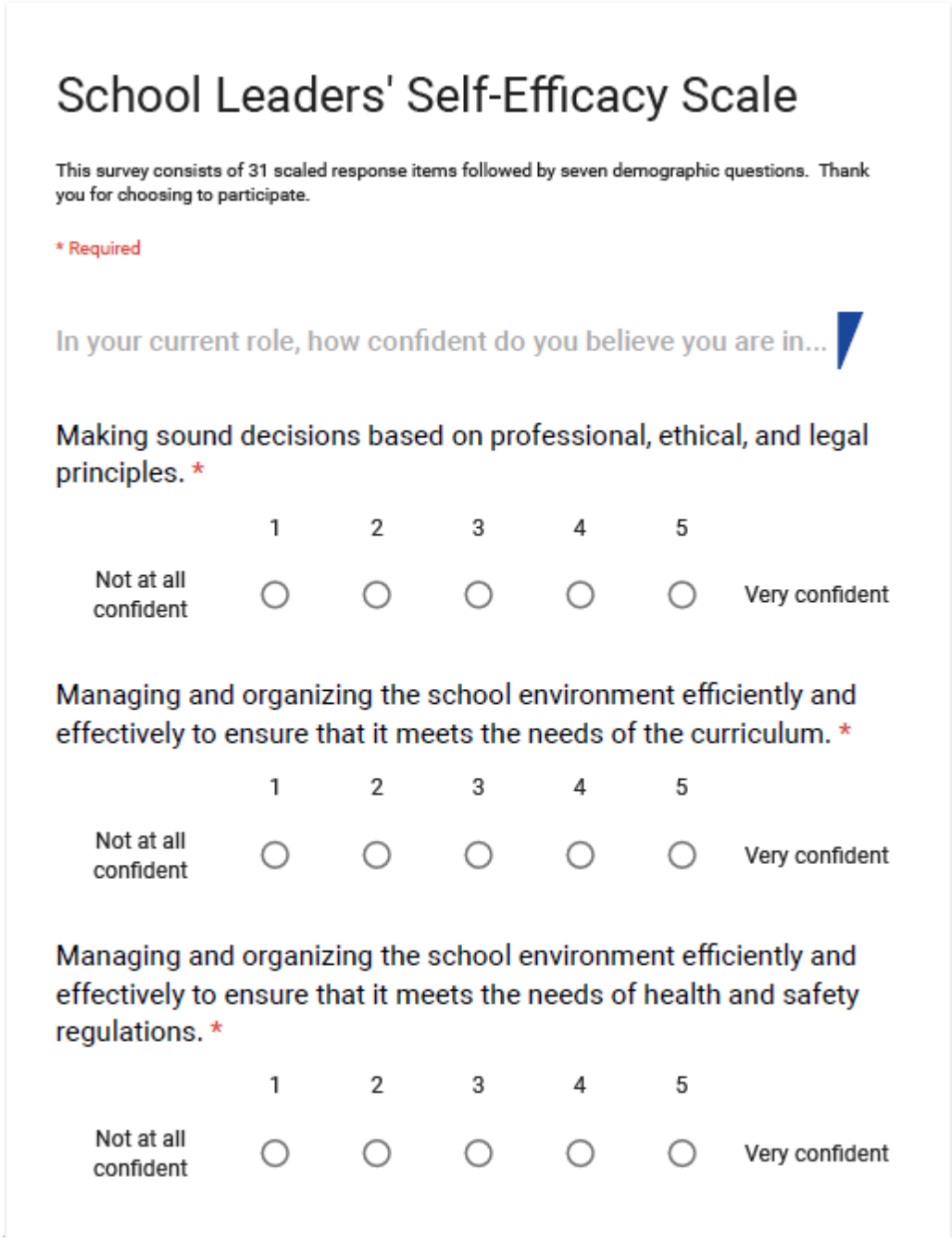
Staff Use Only

[redacted] ✓ Permission given ____ Permission denied

Conditions of Permission: Denied due to:

Revised 01/2012

C. Instrumentation



School Leaders' Self-Efficacy Scale

This survey consists of 31 scaled response items followed by seven demographic questions. Thank you for choosing to participate.

* Required

In your current role, how confident do you believe you are in...

Making sound decisions based on professional, ethical, and legal principles. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Managing and organizing the school environment efficiently and effectively to ensure that it meets the needs of the curriculum. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Managing and organizing the school environment efficiently and effectively to ensure that it meets the needs of health and safety regulations. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Managing the school's financial and human resources effectively and efficiently to achieve the school's educational goals and priorities. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Creating and maintaining effective partnerships with parents, caretakers, and other agencies to support and improve pupils' achievement and personal development. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Managing my own workload and that of others to allow an appropriate life work balance. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Cooperating and working with relevant agencies to ensure and protect the welfare of the children of my school. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Motivating my staff to work effectively and efficiently. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Taking appropriate action when performance (mine and my staffs') is unsatisfactory *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Adapting my leadership style according to the situation I am faced with. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Delegating management tasks to my staff appropriately. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Monitoring the implementation of management tasks I delegate to my staff. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Ensuring that learning is at the center of strategic planning and resource management. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Encouraging my staff to actively participate in decision making. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Developing school self-evaluation plans. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Implementing school self-evaluation plans. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Using school self-evaluation data to support school improvement projects. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Managing and resolving conflicts and disagreements in a positive and constructive manner to minimize negative impact. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Developing a school climate which enables everyone to work collaboratively (share knowledge and understanding, celebrate success, and accept responsibility for outcomes). *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Developing a collaborative climate between the school and external agencies (department of education, community, parents). *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Evaluating teacher performance through classroom observations. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Providing feedback to teachers on their performance following classroom observation. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Using research evidence to inform teaching and learning. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Ensuring that school practices comply with state curricula and policies. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Ensuring that school practices reflect community needs. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Explaining to staff and parents how the decisions in the school are related to state and national institutions and policies. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Systematically monitoring student performance. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Monitoring the effectiveness of classroom practice and promote its impact on student performance. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Effectively using the available school infrastructure to enhance student and staff learning. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Developing effective strategies for newly qualified staff induction and professional development. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Developing effective strategies for staff continuing professional development. *

	1	2	3	4	5	
Not at all confident	○	○	○	○	○	Very confident

Demographic Information

Thank you for taking the time to complete this survey. Now, just a few demographic items and you will be finished.

At what school level are you an assistant principal? *

- ○ Elementary
- ○ Middle
- ○ High
- ○ Other:

How many years of experience in education do you have? *

- ○ 0-5
- ○ 6-10
- ○ 11-15
- ○ 16-20
- ○ 21-25
- ○ 26-30
- ○ More than 30

Are you female or male? *

- ○ Female
- ○ Male

Are you currently working with a leadership coach through KSU or your school district? *

- ○ Yes
- ○ No

Please enter your date of birth. *

Date

mm/dd/yyyy

SUBMIT

D. Online Survey Consent Form

Title of Research Study: The Effect of Leadership Coaching on the Self-Efficacy of New Assistant Principals

Researcher's Contact Information: Mike Manzella, Phone: 678-276-9703, email: michael.manzella@cherokee.k12.ga.us

Introduction

You are being invited to take part in a research study conducted by Mike Manzella of Kennesaw State University. Before you decide to participate in this study, you should read this form and ask questions about anything that you do not understand.

Description of Project

The purpose of the study is to determine whether leadership coaching is an effective form of professional learning for newly appointed assistant principals.

Explanation of Procedures

Participants will be asked to complete a questionnaire consisting of 31 items about their self-efficacy as well as demographic items asking about school level (elementary, middle, high), years of experience, gender, experience with leadership coaching, and age. Participants will complete the questionnaire twice in order to measure changes in perceived self-efficacy.

Time Required

The questionnaire will take approximately 15 minutes to complete. For the entire study, a total of approximately 30 minutes will be required to complete the questionnaire two times.

Risks or Discomforts

There are no known risks or anticipated discomforts expected during this study.

Benefits

There are no direct benefits to the subject expected during this study, but the researcher may learn more about the effects of leadership coaching on self-efficacy.

Confidentiality

The results of this participation will be anonymous. Email information for participants will be saved until after completion of the post-test. Birth dates will be collected to match pre- and post-test results for each participant as well as establish the age of each participant. After a participant has completed both the pre- and post-test, a three digit code will be assigned to the participant's data and their birth date, as well as email address, will be removed from all components and records of the study.

Inclusion Criteria for Participation

You must be 18 years of age or older to participate in this study.

Use of Online Survey

IP addresses will not be collected in this study.

Research at Kennesaw State University that involves human participants is carried out under the oversight of an Institutional Review Board. Questions or problems regarding these activities should be addressed to the Institutional Review Board, Kennesaw State University, 585 Cobb Avenue, KH3403, Kennesaw, GA 30144-5591, (470) 578-2268.

PLEASE PRINT A COPY OF THIS CONSENT DOCUMENT FOR YOUR RECORDS, OR IF YOU DO NOT HAVE PRINT CAPABILITIES, YOU MAY CONTACT THE RESEARCHER TO OBTAIN A COPY

☐ I agree and give my consent to participate in this research project. I understand that participation is voluntary and that I may withdraw my consent at any time without penalty.

☐ I do not agree to participate and will be excluded from the remainder of the questions.