Principal Longevity and the Grit Factor

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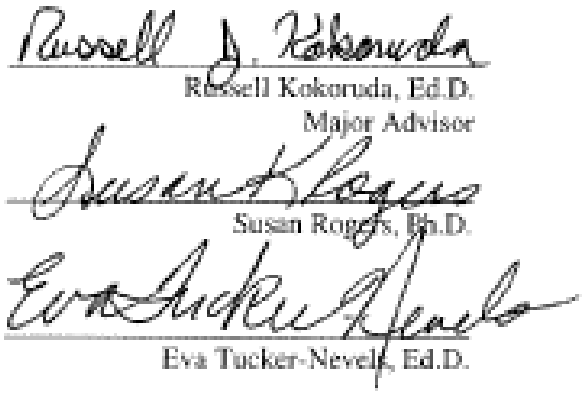

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Abstract

The focus of this study was an investigation of the impact of principal longevity on grit and whether that relationship was affected by the location of a school district. The study was conducted using a quantitative analysis of survey data from two large school districts, one suburban and one urban, in the Kansas City metropolitan area. The population (N = 88) included the principal of each of the schools in both districts during the 2017-2018 academic session. Two-factor analyses of variance (ANOVA) were conducted to analyze the variables of principal longevity, grit, and location of the school district. The results of the analyses indicated that principal longevity had no impact on grit and that the location of the school district did not affect that relationship.

In Loving Memory

Tyauna C. Anthony (5/2/1980 – 1/22/2004)

F. Virginia Harper (1/9/1930 – 10/28/2000)

Rev. Willie L. Roper (10/30/1942 – 08/14/2005)

Keith S. Watson (3/17/1985 – 1/8/2005)

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Chapter 1

Introduction

Though indirect, the importance of building leadership is such that it can be tied directly to student achievement (Carbaugh, Marzano, & Toth, 2015; Kurth, 2016). As the role of the principal has drastically changed over time, with legislation including the No Child Left Behind Act of 2001 (NCLB) and the Every Student Succeeds Act of 2015 (ESSA) helping to force that change (Kurth, 2016), the necessity for effective building leadership has never been more apparent. Thus, attracting, hiring, and developing effective principals is vital to student achievement. Principals also need to serve in the same building for at least 5-7 years to impact positive change in that building (Mascall & Leithwood, 2010). Therefore, retention of those effective principals is key.

Grit is passion and perseverance for long-term goals (Duckworth, 2016; Duckworth, Peterson, Matthews, & Kelly, 2007; Hochanadel & Finamore, 2015). Typically, when exploring grit, student populations have been used. However, grit has also been explored from a perspective of teaching, with grittier teachers outperforming and outlasting their not-so-gritty colleagues (Bashant, 2014; Duckworth, Quinn, & Seligman, 2009; Robertson-Kraft & Duckworth, 2014). As building leaders, principals must have passion to be successful because knowledge alone will not empower a principal to meet the demands of the job (Berkowicz & Myers, 2017). In addition to passion, perseverance is needed for principals to be successful. Connolly (2007) offered five ways for principals to move from being harried to helpful, and developing patience and perseverance for achieving goals was one of those suggestions. Thus, the nature of the principalship requires passion and perseverance, or grit.

Building leaders are faced with varying challenges depending upon the location of the school district in which they work. Equity is an ongoing challenge in public education, and the question of equity becomes of particular interest when comparing urban and suburban education. Lemasters (2015) noted that in addition to a noticeable difference in the achievement gap between urban and suburban schools, there is also a huge funding gap that exists, leaving urban schools with less funding for students. Principals leading schools in urban settings have very different resources available to them than their counterparts in the suburbs (Lemasters, 2015). Thus, the location of a school district may have an impact on principal longevity and grit.

Background

Building leadership is challenging. Principals must have the passion and perseverance, or grit, to work towards achieving long-term goals, including the ultimate and ongoing goal of student achievement. Several factors may impact a principal's grit, including the location of the school district in which that principal leads. In the current study, data were gathered from two different school districts.

District A is a large urban district in the Kansas City metropolitan area. During the 2016-2017 school year, District A's 21,937 students were housed in a total of 51 educational facilities: four early childhood/pre-K schools, 30 elementary schools, eight middle schools, five high schools, and four specialty buildings. Data collected by the Kansas State Department of Education (KSDE) in 2017 indicated that 85.37% of students in District A were deemed economically disadvantaged, 40.68% were identified as English-language learners (ELLs), and 13.95% received special education services. The student body of District A was comprised of 49.62% Hispanic, 28.99% African-

American/Black, 11.50% White, and 9.89% Other. According to 2012 individual income tax returns, the average adjusted gross income of the residents of the community was $30,179, which was below the state average of $60,095 (City-Data, 2017).

District B is a large suburban district in the Kansas City metropolitan area. The district encompasses portions of three cities within one county. During the 2016-2017 school year, District B's enrollment of 22,640 students was housed in a total of 38 educational facilities: 21 elementary schools, nine middle schools, five high schools, and three specialty buildings. Data collected by KSDE in 2017 indicated that 8.19% of students in District B were deemed economically disadvantaged, 3.05% were identified as English-language learners (ELLs), and 10.46% received special education services. The student body of District B was comprised of 5.56% Hispanic, 3.14% African American/Black, 74.04% White, and 17.26% Other (KSDE, 2017). According to 2012 individual income tax returns, the average adjusted gross income of the residents of the community was $105,873, which was above the state average of $60,095 (City-Data, 2017).

Statement of the Problem

Principal turnover in schools, especially high-poverty schools, is not only detrimental to student achievement but is also very costly to school districts (Superville, 2014). In high poverty schools, prospective principals are needed who have the qualities necessary to not only accept the position but also to stay in the position. Furthermore, while retaining principals is important, retaining effective principals is key in positively impacting student achievement (Carbaugh et al., 2015; Kurth, 2016). Effective principals are needed most in high poverty and low achieving schools because these schools tend to

be led by ineffective principals (Rice, 2009). Principal effectiveness is marked by several factors, including the experience of a principal and the tenure of a principal in the same building (Mascall & Leithwood, 2010). To increase principal effectiveness, principals need to serve in the same building for at least 5-7 years to impact positive change in that building (Mascall & Leithwood, 2010). This indicates that principals with at least 5 years of experience may be more effective than those principals with less experience.

Districts struggle with selecting candidates with the qualities that predict effectiveness. Although effective principals typically choose to work in buildings that maintain high rates of achievement, effective principals also tend to choose to remain in the same building even if that building is characterized as high poverty or low achieving (Branch, Hanushek, & Rivkin, 2009). These findings indicate that qualities like grit may make principals more effective. Other studies have indicated that "grittier" individuals tend to be more successful (Duckworth et al., 2007; Hochanadel & Finamore, 2015; Duckworth, 2016). At the time of the current study, no research was found to support the direct relationship between principal longevity and grit; thus, examining grit from the perspective of building leadership could provide a foundation for an otherwise limited body of work.

Purpose of the Study

The purpose of this study was to explore grit from a perspective of building leadership. The first purpose was to determine the difference in grit scores between principal longevity groups. The second purpose was to determine to what extent the difference in grit scores between principal longevity groups is affected by the location of a school district, urban or suburban.

Significance of the Study

Understanding more about innate characteristics like passion, perseverance, or grit, and how those qualities relate to principal longevity provides a foundation for the body of knowledge related to principal longevity and principal grit. This research can be used in recruiting and hiring building leaders. Looking at grit from a perspective of building leadership will also add to the growing body of work exploring grit across domains. Furthermore, understanding whether the location of a school district impacts the relationship between principal longevity and principal grit scores can provide more information that will empower district leaders to pick the "right" people for the "right" positions of building leadership. Such knowledge can also be utilized to design professional development for principals to foster the qualities needed for effective leadership, which will support the continuous development of building leaders.

Delimitations

Lunenburg and Irby (2008) described delimitations as "self-imposed boundaries set by the researcher on the purpose and scope of the study" (p. 134). For this study, the following delimitations helped focus this research:

1. This study was focused on two school districts located in the Kansas City metropolitan area.
2. Principals in 89 schools in these two school districts were included in the sample.
3. The measurements of grit were limited to the items included on the 8-Item Grit-S (Duckworth & Quinn, 2009).

Assumptions

According to Lunenburg and Irby (2008), assumptions are "positions, premises, and propositions that are accepted as operational for purposes of the research" (p. 135). The following assumptions were made regarding this research study:

1. Participants interpreted the 8-Item Grit-S as intended.
2. Participants responded to the survey questions honestly.
3. Principals provided an accurate report of their number of years of service at their current and any prior assignments and the location of the school district(s) in which they currently work and where they worked in the past.

Research Questions

A research question is "a statement of the specific question(s) to which the research seeks an answer" (Johnson & Christensen, 2008, p. 78). The following two research questions guided this study:

RQ1. To what extent is there a difference in grit scores between principal longevity groups?

RQ2. To what extent is the difference in grit scores between principal longevity groups affected by the location of the school district, urban or suburban?

Definition of Terms

Defining terms for a specific research study is critical to understanding the study correctly. Roberts (2010) offered that this part of the dissertation "provides the definition for the terms used that do not have a commonly known meaning or that have the possibility of being misunderstood" (p. 139). The following terms were used throughout this research study.

Principal grit. For this study, "principal grit" refers to the passion and perseverance principals have for long-term goals, as measured by the 8-Item Grit-S (Duckworth & Quinn, 2009).

Principal longevity. In this study, "principal longevity" refers to the consecutive number of years a principal remains in the same building serving in that capacity. Principal longevity may refer both to a principal's current assignment, and any other prior principal assignments.

Organization of the Study

The remainder of this study is organized into four additional chapters, a reference section, and appendices. Chapter 2 includes a review of literature related to qualities of effective leaders, qualities of effective principals, and grit. In Chapter 3, the methodology of the study is explained thoroughly, including information regarding the research design, selection of participants, and a description of the instrument used to collect data. Additional information on the data collection process, data analysis, and limitations is also included in that chapter. Presented in Chapter 4 are the results of the in-depth analysis of that data. The entire study is summarized in Chapter 5, which includes a study summary, findings related to the literature, and conclusions.

Chapter 2

Review of the Literature

The purpose of this study was to determine the difference in grit scores between principal longevity groups. A second purpose was to determine to what extent the difference in grit scores between principal longevity groups is affected by the location of a school district, urban or suburban. The following topics are discussed in this literature review: qualities of effective leaders, qualities of effective principals, and grit. As part of the review of the qualities of effective principals, the following subtopics were discussed: urban settings, principal applicant screening tools, and principal retention and turnover.

Qualities of Effective Leaders

Maxwell (1999) offered that the character qualities of an individual are what make leaders effective and successful. Furthermore, he offered that leaders must "recognize, develop, and refine" essential characteristics from charisma to vision to be effective (p. xi). Without taking the time to reflect and hone in on these characteristics, a leader may reach a certain amount of success but will not be as effective as possible.

Having high ethical and moral standards was the top leadership competency identified in one study on qualities of effective leaders (Giles, 2016). The researcher asked a sample of 195 leaders from 15 countries serving over 30 global organizations to identify top leadership qualities by choosing their top 15 qualities for effective leadership from a list of 74 total qualities. The quality that stood out was having high ethical and moral standards, with 67% of respondents identifying it as the top quality. The top 10 leadership qualities were grouped into five themes, including the ability to nurture growth and connection and belonging. Having high ethical and moral standards was grouped

into the theme of demonstrating strong ethics and providing a sense of safety, which also included the quality of clearly communicating expectations.

Developing people relationships and communication stood out as two important qualities for effective leaders in a study conducted by Zenger and Folkman (2012). The results of their study also indicated that women tend to serve as more effective leaders. Over 7,000 male and female leaders representing high-performing companies in both the United States and abroad completed Zenger Folkman's Extraordinary Leader 360 assessment in 2011. This assessment is a valid and reliable survey used to identify the items that are most effective in differentiating leaders (Folkman, 2015). Although there tended to be more males serving as leaders in top management and more males who reported directly to top management, females were rated more positively on an overall leadership effectiveness index. The index was comprised of 49 items that were associated with the 16 differentiating competencies on the assessment. The overall index rating was an average that included ratings from managers, peers, direct reports, and others (Zenger & Folkman, 2012). Of those 16 differentiating competencies, females were rated more positively by the total of all respondents on 12 competencies. Of the 49 items related to the differentiating competencies, females were rated more positively on 36 items, while men were only rated significantly positive on two items. The other 11 items on that assessment were neutral. This data indicates that the overall effectiveness of any leadership team would rise with the addition of more women, and this may be because women scored higher than men in extremely important areas of leadership, including people relationships and communication.

Within the context of global virtual teams, Kayworth and Leidner (2002) determined that the ability to perform several leadership roles simultaneously was an indicator of leadership effectiveness. These researchers explored the role of team leadership in virtual settings by bringing together thirteen teams of individuals representing culturally diverse backgrounds. Those teams met and worked collaboratively from locations in the United States, Mexico, and Europe. Each team was assigned a project leader and given a task to complete within a five-week time frame. The authors used both quantitative and qualitative methods to collect data for analysis. Kayworth and Leidner (2002) found that effective project leaders possessed the qualities that directly addressed the typical challenges virtual teams experience, including addressing cultural differences and responding to the logistics of virtual teaming. A project leader's ability to mentor other team members emerged as the quality most closely associated with leadership effectiveness. Survey data also indicated that team member perceptions of the project leader's communication effectiveness, their satisfaction with communication with the project leader, and the project leader's ability to clearly establish roles among team members were also associated with effective leadership. In short, Kayworth and Leidner (2002) found that those project leaders in this study who were perceived as effective exhibited strong skills in relational and task-related skills, employing both effectively in two basic activities described in behavioral approaches to leadership as initiating structure and consideration.

Leadership at various levels of education influences student achievement (Wahlstrom, Louis, Leithwood, & Anderson, 2010). Utilizing a national sample of 180 schools representing 43 school districts across nine states, Wahlstrom et al. (2010)

studied leadership at the state, district, building, and the classroom levels. Through surveys and interviews, teachers, principals, other staff members, district office personnel, school board members, community leaders, and state-level leaders were assessed on factors that contribute to student achievement. Student achievement data was analyzed, and classroom observations were conducted as well, all making this study the largest study of its kind conducted in the United States at that time. The researchers' perspective on leadership centered around four core beliefs, with one of those beliefs being that providing direction and exercising influence are the two core functions of leadership. When leaders are able to appropriately balance stability and change in regard to these two core functions, they improve effectiveness, which is another core belief of the researchers (Wahlstrom et al., 2010).

The sum of these findings has indicated that effective leaders in various industries must be able to manage a number of tasks simultaneously while still possessing the interpersonal skills necessary to communicate effectively and establish, develop, and maintain positive relationships (Giles, 2016; Kayworth & Leidner, 2002; Wahlstrom et al., 2010; Zenger & Folkman, 2012). Leaders must have the wherewithal to invest in the ongoing professional development of their subordinates to promote effectiveness throughout their organization. In short, leaders must constantly develop their own skills while also developing the skills of others.

Qualities of Effective Principals

Most of the same qualities that make leaders effective in industries outside of the scope of education are identified as qualities that make principals effective in their buildings. Effective principals produce positive results in schools. Specifically, in

elementary schools and high-poverty, high-minority schools, effective principals have the most impact (Hull, 2012). Highly effective principals tend to run schools with fewer student and teacher absences and higher standardized test scores (Hull, 2012).

In a review of the literature on topics related to the interdependence of principal leadership and student achievement, Soehner and Thomas (2011) found that principals are key players in building trust amongst staff and that effective leadership could improve teacher efficacy. These researchers indicate that principals are the instructional leaders in buildings because, although they may not be the curriculum content experts, they use their talents to support student learning. In addition, the researchers also concluded that principals' effectiveness involves having the ability to communicate knowledge to staff in a supportive manner through modeling and actually partaking in the learning, which requires balance in principal work schedules to allow for such experiences (Soehner & Thomas, 2011).

Berkowicz and Myers (2017) identified three fundamental qualities effective school leaders must possess. Based upon the 2008 ISLLC Standards, they offered that effective principals interpret the standards as the ultimate goal of the work they do throughout their career; however, the theme that emerges from those standards illustrates that the attributes of intelligence, heart, and courage are the characteristics of those principals who leave positive marks on the school. All principals have demonstrated at least a certain amount of intelligence by earning degrees and certifications, learning laws and policies, observing and evaluating staff, problem-solving, and all the other daily tasks required of principals. Heart involves the purposeful passion needed to do the job, especially in times where empathy, compassion, and love are brought into the fold.

Courage inspires action and is also required to balance the heart, especially in times where that action is unpopular. Berkowicz and Myers (2017) went on to offer that all leaders, including principals, are also capacity builders with the potential and responsibility of bringing others along to nurture and develop their skills, all for the ultimate benefit of improving the educational experience of all students.

Effective principals must be instructional leaders and not just building managers (Krasnoff, 2015). Consistent with other research studies, the results of this study indicated that even highly effective principals could need as much as five years to impact a new school's performance positively. The researcher went on to offer five key responsibilities of effective principals: setting high expectations, establishing optimal instructional climates in their buildings, building leadership capacity throughout the school community, improving instruction, and managing resources for the overall goal of student achievement. One important finding of this research was that highly effective principals often transfer to less challenging schools due to working conditions, which creates major issues in schools that need strong leadership the most. Schools in urban settings tend to need strong leadership, and there are specific skills leaders in urban schools need to be effective (Krasnoff, 2015).

Effective Principals in Urban Settings. Organization management skills are a consistent predictor of student achievement (Grissom & Loeb, 2009). These researchers defined organization management skills as those skills that principals would be expected to actively and to directly execute throughout the year to reach the school's medium and long-term goals. Those skills include tasks related to maintaining campus facilities, managing budgets and resources, and developing a safe school environment. Utilizing a

mixed method, cross-sectional approach, Grissom and Loeb (2009) assessed parents, teachers, assistant principals, and principals from the Miami-Dade County Public Schools (M-DCPS) system on their perspectives of various school performance measures. At the time of the study, M-DCPS was the fourth-largest school district in the United States with a largely diverse student population. Over 60% of the 350,000 students throughout the district qualified for the free or reduced-price lunch program. Principals completed a self-assessment asking them to rate how effective they felt they were at conducting each of 42 different job tasks in their current schools. Over 300 principals in the district were included in the online survey. Over 575 assistant principals in the district were assessed on their perceptions of the effectiveness of their principals at completing the same 42 job tasks on which principals were assessed. All 15,842 teachers were surveyed to assess their attitudes regarding their satisfaction with being a teacher in their school. Archival data that assessed parent's perceptions of their children's school's performance were included in this study.

Grissom and Loeb (2009) found that high school principals in high-poverty schools were more likely to feel less effective at organization management than principals in other schools. The researchers also found that parents tended to rate schools more highly when those schools (1) had a lower concentration of black students or students who qualified for subsidized lunch, (2) were smaller, (3) were elementary schools in relation to high schools or high schools in relation to middle schools, and (4) when the school's state accountability grades were higher. Principals' self-assessments on the tasks related to organization management yielded positive relationships with both teacher satisfaction and parents' ratings of school performance. The relationship between

principals' self-assessments and parents' ratings of school performance indicated a tendency for principals with better organization management skills to be employed in schools with higher-performing students. In fact, Grissom and Loeb (2009) found that the schools with the highest levels of student poverty tended to be led by principals who assessed themselves lowest on the organizational management dimension.

New principals in urban districts who are placed in schools where students are already struggling academically are more likely to leave after one or two years of service (Burkhauser, Gates, Hamilton, & Ikemoto, 2012). Burkhauser et al. (2012) conducted a study in six major urban school districts in cities throughout the United States, including Baltimore, Chicago, and New York City. The researchers included data collected for the RAND Corporation's seven-year evaluation of New Leaders in this study. New Leaders is an organization committed to advancing student achievement by developing principals in urban school districts. All schools led by New Leaders principals in the participating districts were included in the sample, in addition to a nearly equal number of similar schools not being led by New Leaders principals. The principal survey used as part of the data collection in the study gathered information regarding how principals spend their time, their feelings on how they spend their time (specifically whether it was adequate or excessive), school and district conditions that could influence principals, sources of support, and future career plans. It was distributed in the spring of 2008. Burkhauser et al. (2012) found that schools that lose a first-year principal typically underperform in the subsequent year. The results of this research indicated that new principals in urban schools where students are already underperforming are more likely to leave those

schools, which will then cause even more of a decline in student achievement the year after the principal leaves.

Managing human resources, especially the teaching staff, is a vital part of principals' work. Branch et al. (2012) explored variation in the quality of management in education before investigating a very important quality of effective principals: the management of teacher transitions. This quality was explored through a causal relationship analysis between the quality of teachers who transition out of a school and the quality of principals. The researchers were especially interested in the assignment of principals to schools serving disadvantaged populations of students due to their assertion that these schools tend to struggle to attract and retain effective principals. The last component of this study was to analyze the dynamics of principal transition, particularly in schools serving disadvantaged students. This longitudinal study was conducted utilizing different data sources as part of the UTD Texas School Project. Data collected over a six-year period (1995-2001) yielded 28,147 annual observations of 7,420 individual principals. Differences in school poverty were investigated utilizing this large sample size. The researchers expected that highly effective principals would be more likely to retain more effective teachers and move out those teachers who were less effective. Findings suggested that teachers transitioned out of schools with the least effective principals regardless of the rate of school poverty, although the relationship was strongest in high-poverty schools. These findings indicate that the larger variation in principal effectiveness in high-poverty schools seemed to be directly related to the retention of effective teachers, which also directly impacted student achievement.

Branch et al. (2012) concluded that highly effective principals are needed to manage teacher transitions, which will directly impact student achievement.

Teachers reported less leadership from both principals and fellow teachers in schools located in larger metropolitan areas and districts (Wahlstrom et al., 2010). In fact, findings from that study indicated that perceptions of both principal and teacher leadership decrease as poverty and diversity increase (Wahlstrom et al., 2010). Larger districts with high-poverty student populations are also most likely to experience limited leadership. Schools in larger metropolitan areas and districts are less likely to develop shared leadership with parents. Building leaders who are able to balance between stability and change build capacity and redesign their organizations to increase effectiveness. Wahlstrom et al. (2010) expanded the list of leaders to include parents, students, and other community members because of their potential to impact education policy and practice. Shared leadership was defined as "a group- or team-level mode of leadership in which staff members of a specific school share responsibility for leading−contingent upon the task, the time required, and the expertise needed" (Wahlstrom et al., 2010, p. 7). Effective principals work to bring their parents into their organization and collaborate with them in their efforts to increase student achievement. The results of the research suggested that though this level of collaboration is necessary, it is not occurring as often in those districts that need the most support (Wahlstrom et al., 2010).

Principal Applicant Screening Tools. Principal application screening tools have evolved over time as the role of the principal has drastically changed. The Principal Perceiver, a selection instrument developed by Selection Research and supported by the

Gallup Organization, was a structured interview that included 60 questions to help predict success in the principalship (Skrla, Erlandson, Reed, & Wilson, 2001). The 60 questions posed during the interview relate to 12 life themes that are organized into three major areas, including themes related to: (1) the individual's motivation to lead and manage; (2) how the individual motivates and relates to staff; and, (3) how the individual organizes and manages the school. Although the interview was designed for the screening process of principal candidates, it can also be used in the development of principals who are already on the job.

The majority of school principal performance assessments lack rigor and were developed 10-20 years ago (Condon & Clifford, 2010). Through an Internet-based scan of more than 5,000 scholarly articles and books, only 20 school principal performance assessments were identified. These assessments were intended for use in the hiring, evaluative, and tenure measuring processes of building leaders. Eight of the 20 assessments met the criteria for rigor, which indicated that the assessment was psychometrically sound and that those measures were provided for review. Of the eight assessments, only two were developed in the decade before 2010. The approach to data collection varies among the assessments, and only two of the assessments consist of a 360-degree approach, which requires data collected by other individuals in addition to the principal. Only one of the two 360-degree assessments is linked directly to the ISLLC Standards. With so many changes to the role of a principal in the past 10 years, the older assessments may not capture the current essential elements of the position (Condon & Clifford, 2010).

The Vanderbilt Assessment of Leadership in Education (VAL-ED) is one of the two 360-degree assessments included in the research study conducted by Condon and Clifford (2012). This assessment was developed in 2006 as a multi-rater scale that assesses principal effectiveness by measuring learning-centered leadership behaviors (Porter et al., 2008). Psychometric studies used in the design of VAL-ED established that the assessment is unbiased, construct valid, reliable, feasible for widespread used in a variety of settings and circumstances (both online and using paper-and-pencil versions), provides accurate and useful reporting of results, yields a diagnostic profile for formative purposes, and can be used to measure progress over time in the development of leadership. VAL-ED is also aligned with the Interstate School Leader Licensure Consortium (ISLLC) (2008) Standards and is an assessment of leadership behaviors, not knowledge (Porter et al., 2008). The Vanderbilt Assessment of Leadership in Education model posits that the knowledge, skills, personal characteristics, values, and beliefs leaders possess inform the actual behaviors leaders exhibit as they perform their responsibilities. These behaviors, which are the constructs measured on the assessment, are what lead to school performance on core components and ultimately student success, which is defined as value-added in such areas as student attendance and graduation rates. The intersection of six core components of school performance and six key processes define principals' leadership behaviors. The core components are as follows: (1) high standards for student learning, (2) rigorous curriculum (content), (3) quality instruction (pedagogy), (4) culture of learning and professional behavior, (5) connections to external communities, and (6) performance accountability. The six key processes are as follows: (1) planning, (2) implementing, (3) supporting, (4) advocating, (5) communicating, and

(6) monitoring. Respondents, including teachers, principals, and supervisors, complete a 72-item Likert-type scale, where "1" equals "ineffective" and "5" equals "outstandingly effective" to assess effectiveness on each of the items related to the behaviors. The mean item response serves as the scores of principal effectiveness. Although this tool is not directly used for the screening and hiring or principals, the behaviors that are assessed are those that indicate effective building leadership (Porter et al., 2008).

Recruitment for principal preparation programs is another step where screening future principals can occur. Brown and Scott (2014) assessed the degree to which school leader preparation programs adopted reforms in candidate recruiting and admissions that had been recommended in literature since 2000. The researchers distributed 121 surveys both in person and online to professors of educational administration or leadership programs who also belonged to a national association focused on educational administration. All professors were current, active faculty working across the country in 20 states to prepare future school leaders. Fifty-nine surveys were completed and submitted. The researchers found that overall there had been progress toward bridging the gap between the needs of schools and districts related to school leadership and the way that universities prepare those future leaders. Brown and Scott (2014) also found that the majority of candidates were self-selected with little intentional effort made on the part of districts to seek out aspiring principal candidates and refer them to programs. Additionally, an overall increase in admissions criteria was inconsistent. Some programs increased the rigor of their admissions practices, while others lowered their requirements. District leaders may have to become more involved in developing these principal preparation programs to produce quality candidates for the principalship (Brown and

Scott, 2014). Grissom and Loeb (2009) found that organization management skills are a consistent predictor of student achievement and suggested that district leaders should include measures of organization management competencies in their screening tools for potential principal candidates.

More recently, PeopleAdmin (2017), an educational talent management software company, launched the Principal Educators Professional Inventory (Principal EPI). Principal EPI is a tool used to measure principal candidates' strengths on a number of data points to help match candidate characteristics to school needs. This feature empowers district leaders to predict principal candidates' impact on student achievement. The Principal EPI was developed and validated by educational experts, including over 500 principals, representing the United States and Canada. Principals and leaders from rural, suburban, and urban school districts were also represented. The Principal EPI is part of PeopleAdmin's effort to address educational institutions' entire talent life cycle and can accompany another PeopleAdmin product – Teacher EPI – that addresses very similar needs related to teacher candidates.

Principal Retention and Turnover. Two other important areas of focus for districts are principal retention and turnover. Retaining effective principals is vital in driving student achievement. An important finding in research conducted in Texas by Branch et al. (2012) was that schools with higher populations of students eligible for subsidized lunch were more likely to have first-year principals and less likely to have principals who had been at the school for at least six years. There were, in fact, important findings regarding principal transition that emerged from this research. Thirty percent of the principals included in this sample left their schools each year, which was significantly

higher than the national average of 20% in 2009. The researchers also found that between 16% and 20% of principals in the study exited the Texas public schools, and the probability of exit did not vary substantially by tenure. The probability of a principal remaining a principal but changing schools both (1) after his or her first year and (2) through his or her fifth year increased substantially when compared to both (1) first-year principals and (2) those principals with tenures of at least six years. These patterns in principal transition findings indicate that the least and most effective principals tended to leave schools, and the researchers also found that this pattern was occurring more often in higher poverty schools (Branch, et al., 2012).

Not only does turnover negatively impact student achievement, but rapid principal turnover appears to have even more damaging effects. In their study on the influence of leadership at various levels in education, Wahlstrom et al. (2010) found that rapid principal turnover negatively impacts student achievement through its effects on school culture. Schools experiencing fairly rapid principal turnover were defined as experiencing one new principal every three to four years on average. These findings are consistent with research conducted by the School Leadership Network (SLN) (2014) that indicated that 25% of principals in the United States leave their schools each year while another 50% of new principals quit during their third year. While principal turnover is tremendously detrimental to students and staff, it is also very costly to districts and communities (SLN, 2014). "Churn" refers to the numerous experienced principals who leave schools each year only to be replaced by less effective, novice principals, on an average of every three years. The SLN offered that on average and estimating conservatively, districts spend $75,000 per principal to develop, hire, and onboard each

principal. A typical urban school district could save $330,000 annually if more investments were made to increase retention at the same rate as their typical affluent counterparts. Urban school districts tend to have principal turnover rates that are almost 10% higher than affluent school districts (SLN, 2014). To address the constant exodus of building leaders, SLN offered four specific solutions:

1. Continue investing in leadership professional development efforts that go beyond the superficial pipeline investments.
2. Engage principals in peer networks where they can have authentic learning experiences from other principals.
3. Provide one-to-one mentoring to principals beyond their first two years in the position.
4. Revise the roles of district office principal supervisors to better support principals.

Using principal data in Texas from 1989 through 2010, Fuller (2012) found that the average high school principal would not remain in a building long enough to see his or her first freshman class graduate. The researcher also found that the same schools with high rates of principal turnover also had high rates of teacher turnover and high rates of teachers assigned out-of-field. With such high teacher turnover, there is also a high rate of beginning teachers who enter schools, especially low-performing schools, as principals leave. Teacher turnover is a very important issue related to principal turnover because of its direct effects on student achievement and school climate (Fuller, 2012).

Hull (2012) found that schools with highly effective principals also influence the retention of effective teachers and replace ineffective teachers with more effective

teachers. The researcher of this comprehensive literature review on principal effectiveness also found that principals become more effective as they gain more experience, especially experience as a principal. Effective principals typically have more than three years of leadership experience overall and have at least three years of leadership experience in the same building (Hull, 2012).

Principal turnover is affected by several factors, including accountability pressures, according to a study conducted by DeAngelis and White (2011). These researchers constructed a longitudinal file that tracked each principal in the Illinois Public School system (IPS) from one year to the next from 2001 to 2008. Information representing 7,075 unique individuals during the study period was compiled and analyzed to classify each principal into one of the following categories: stayers were those principals who stayed in the same school as principal from one year to the next; movers within district referred to those principals who remained a principal but moved to another school within the same district; movers out of district included those principals who remained a principal but moved to another school in a different district; changers were those individuals who changed to a non-principal position within the district; or leavers, which were those principals who left the district altogether. On average, across all years of the study, 79.1% of principals were stayers from one year to the next. However, though this retention rate was high, it was significantly lower than the 86% rate reported for the 1987-2001 period, which indicated an overall decline in principal stability in IPS. The year-to-year attrition rate for the study period averaged 8.4% for all principals or just over 300 principals per year. Those principals who were most likely to leave their schools were those principals in low-achieving high schools. In fact, these principals

were more likely to leave their schools than their peers in the highest performing high schools and elementary and middle school principals at all achievement levels. Additionally, those principals who moved out of district tended to move to schools with lower percentages of low-income students and higher average achievement levels (DeAngelis & White, 2011). Overall, student achievement and teacher qualifications appeared to have had a negative impact on principal stability, while characteristics of students seemed to have a very little impact on principal turnover.

Grit

Personal qualities have been shown to indicate effectiveness in leadership. The majority of these qualities refer to skills that are needed to perform well on tasks rather than innate qualities that can also be developed over time. On the other hand, grit is passion and perseverance for long-term goals (Bashant, 2014; Duckworth, 2016; Duckworth & Eskreis-Winkler, 2015; Duckworth et al., 2007). Across different contexts, grit has been a consistent indicator of leadership effectiveness.

Grit and life satisfaction are positive predictors of teacher effectiveness (Duckworth et al., 2009). The researchers used data collected from 390 novice teachers in the Teach for America (TFA) program before the beginning of the 2005-2006 academic session to develop this prospective, longitudinal study. TFA is a non-profit that recruits recent college graduates to teach for two consecutive years in under-resourced public schools throughout the country. The majority of participants in the study were female (79%) and most had no education background before joining the program. The purpose of the study was to examine whether positive traits, specifically, optimistic explanatory style, grit, and life satisfaction, predict teacher effectiveness. Teachers

completed surveys to measure these variables, and TFA administrators completed rankings of teacher effectiveness based on data indicating students' academic gains during that school year. Although results indicated that each of the three positive traits previously listed predicted academic gains in students, only grit and life satisfaction predicted teacher performance. The researchers believed that grit benefited teacher performance because grittier individuals tend to work harder and longer in challenging settings than less gritty individuals. The researchers outlined implications of their work, which focused on the recruitment, selection, and professional development of effective teachers. The results indicated that positive traits like grit might be an important predictor of performance in the recruitment and selection of teachers (Duckworth et al., 2009).

Grit increases work engagement (Eskreis-Winkler, Shulman, & Duckworth, 2014). Among police detectives, grit, associated with parallel experiences shared with clients, increased work engagement. The primary purpose of this cross-sectional study was to examine whether professionals who have parallel experiences to their clients were more engaged in their work than their colleagues who do not have parallel experiences. Grit was one of the four mediators measured to examine work engagement, and the results indicated that between both groups, police detectives and mental health workers, professionals with parallel experiences experience higher work engagement (Eskreis-Winkler et al., 2014).

Elam (2015) found that both grit and cognitive ability play a role in hiring decisions. However, of the two, only grit was found to have a significant impact on the predicted level of task and contextual performance. In this study, participants were

solicited from Amazon's Mechanical Turk (MTurk) website to participate in the study in exchange for $1.00. There were 107 participants who were full-time employees working the United States at the time, and they participated as decision-makers after reviewing job applicant materials. They were asked to offer their perceptions of the materials, including hiring recommendations. Decision-makers in this study perceived grit to have a more important role in the predictions made about a potential candidate's future performance at work than cognitive ability. Decision-makers in this study also gave higher hiring recommendations to candidates with high grit scores (Elam, 2015).

Grit was found to be a predictor of retention in a study conducted by Robertson-Kraft and Duckworth (2014). These researchers examined whether novice teachers who demonstrated grit before entering teaching were more likely to persist through the school year and produce student achievement. Data were collected from two prospective, longitudinal studies of novice teachers assigned to low-income school districts. The number of participants was 461 (N = 154 and N = 307, respectively). Raters blindly assigned scores following a 7-point rubric to grit information extracted from the teachers' resumes. Those scores, along with other information including college GPA and SAT scores, were then used to predict teacher effectiveness and retention. Data indicating students' academic gains during that school year were obtained after the academic session to measure effectiveness. The results indicated that grittier teachers produced increased student achievement in comparison to their less gritty colleagues. Grittier teachers also were less likely to leave their classrooms midyear. Robertson-Craft and Duckworth (2014) demonstrated that grit could be objectively quantified from

biographical data at the time of hire, which could help administrators predict both teacher retention and effectiveness even during the recruitment and selection phase of hiring.

Across other contexts, grit consistently predicts retention. Eskreis-Winkler, Shulman, Beal, and Duckworth (2014) investigated whether grit predicted retention across four very different contexts: the military, workplace sales, high school, and marriage. Data were collected from 677 soldiers in an Army Special Operations Forces (ARSOF) selection course, 442 sales representatives at a vacation ownership corporation, 4,813 juniors in the Chicago Public Schools district, and 6,362 adults in an Internet sample. Studies 1, 2, and 3 utilized longitudinal designs, while Study 4 employed a cross-sectional design. In the first three studies, retention in the ARSOF course, retention relating to employment at the corporation, and retention related to successful on-time graduation were examined. Study 4 examined the relationship between grit and the likelihood of remaining married among adults. The results indicated that grit predicted retention over and beyond those context-specific predictors and demographic variables in each of the four settings studied. In Study 4, the relationship between grit and remaining married was found among men, but not women. Eskreis-Winkler et al. (2014) emphasized the imperative need for further research to establish grit as a domain-general trait by establishing relationships between grit and participants' actions across the domains studied.

Principal grit and teacher trust in the principal are not correlated constructs (Madden, 2015). Principal grit and faculty organizational commitment were also found to not be correlated. Madden (2015) investigated the relationships between principal grit, organizational commitment, and teacher trust in principal using a sample of 42

participating public high schools in the state of Alabama. There were 233 public high schools in Alabama, and all were invited to participate in the study; however, only 42 schools submitted all the data that was necessary for entry. Principals completed the Grit-S Scale and teachers completed two scales – the Omnibus T-Scale and the Organizational Commitment Questionnaire (OCQ). The socio-economic status (SES) of each school was also used to analyze the impact of SES on the aforementioned constructs. In addition to the findings mentioned above, SES did not produce significant relationships with principal grit, teacher trust in the principal or organizational commitment. One finding that was not hypothesized by the researcher was a significant relationship between teacher trust in the principal and organizational commitment. Although no statistically significant relationships were found, the study of grit as it relates to school leadership was expanded (Madden, 2015).

Summary

This literature review covered three major topics: qualities of effective leadership, qualities of effective principals, and grit. These topics provided the foundation for the current study. Chapter 3 details the methodology employed to determine the difference in grit scores between principal longevity groups and to determine to what extent the difference in grit scores between principal longevity groups is affected by the location of a school district, urban or suburban.

Chapter 3

Methods

The primary purpose of this study was to determine the extent there was a difference in grit scores between principal longevity groups. A second purpose was to determine to what extent the difference in grit scores between principal longevity groups is affected by the location of a school district, urban or suburban. Chapter 3 includes the methodology utilized in this study, including a detailed description of the research design, selection of participants, measurement, data collection procedures, data analysis and hypothesis testing, and limitations.

Research Design

This study was a non-experimental, descriptive survey research study using three variables. Lunenburg and Irby (2008) described correlational research as being based on bivariate relationships between variables with the degree to which the relationship exists and the direction of the relationship being of equal importance. A correlation coefficient was calculated to evaluate a potential positive or negative relationship between the two variables. The variables for this study were principal longevity, grit scores, as measured by the 8-Item Grit-S, and the location of the school district in which the principals worked, urban and suburban.

Selection of Participants

Principals from two large school districts in the Kansas City metropolitan area participated in this study (N = 88). The criterion for inclusion in this study was that the participants had to be principals of their buildings. Assistant principals, associate principals, instructional coaches, teacher leaders, teachers, teacher assistants, and para-

educators were not eligible to participate in the study. The participants were appropriate for this study because they were principals in their buildings at the time of the study.

Measurement

Based on the research questions and hypotheses identified in this study, three variables were analyzed. The three variables included principal longevity, principal grit, and the location of the school district in which the principals work. One survey instrument was utilized to collect data for the measurement of all three variables.

The 8-Item Grit-S utilized for this study was developed in 2009 to validate a more efficient measure of grit (Duckworth & Quinn, 2009). Duckworth et al. published the original 12-Item Grit Scale, or Grit-O, in 2007. The 12-Item Grit Scale was designed to measure grit in participants using their responses to Likert-type items, such as, "I have overcome setbacks to conquer an important challenge." Essentially, the Grit-S was shown to be a more efficient measure of grit by reducing the number of items from twelve to eight. The Grit-S was also shown to have psychometric properties that were stronger than the Grit-O, with the items being moderately intercorrelated, $r = .59$, $p < .001$ indicating the reliability of the instrument (Duckworth & Quinn, 2009).

The scale used to measure grit is a Likert-type scale with values between 1 and 5, with 1 representing "*not like me at all*," 2 representing "*not much like me*," 3 representing "*somewhat like me*," 4 representing "*mostly like me*," and 5 representing "*very much like me*." Half of the items on the survey, specifically, items 1, 3, 5, and 6, are reverse-scaled with 1 representing "*very much like me*" and 5 representing "*not like me at all*." Those items are reverse-scaled in order for participants to respond to items like "New ideas and projects sometimes distract me from previous ones." Items are recoded before the grit

score is calculated. After the recoding, to calculate a grit score for each principal, points are added and divided by 8. The maximum score of 5 indicates that a principal is "extremely gritty," while the lowest score of 1 indicates that a principal is "not at all gritty" (Duckworth & Quinn, 2009).

A request to use the 12-Item Grit Scale was sent to the primary author of the scale on April 5, 2017 (see Appendix A). Approval to use any version of the grit scale, including the 8-Item Grit-S, was granted on that same day (see Appendix B). The researcher of the current study determined that the 8-Item Grit-S was an appropriate measure for the current study on October 5, 2017.

Five additional statements were added to the content instrument to obtain additional data related to principal longevity and the location of current and previous principal positions. Principal longevity was measured when respondents identified the total number of years they served in their current position. Each respondent was also asked to identify the number of principal positions held and the number of years served in previous positions. A copy of the scale is not included in this dissertation by request of the primary author of the scale.

Data Collection Procedures

The researcher submitted a request to conduct the study to the Institutional Review Board of Baker University on August 1, 2017 (see Appendix C), and on August 14, 2017, approval was granted (see Appendix D). Requests for permission to conduct research (IRB forms) were sent to District A on August 3, 2017 and District B on August 17, 2017 (see Appendices E and F respectively). Approval for District A was granted on

October 13, 2017 (see Appendix G), and approval for District B was granted on September 28, 2017 (see Appendix H).

Data were collected through the administration of the 8-Item Grit-S plus five additional questions to school principals in both districts. The survey was distributed utilizing electronic mail and web-based technology. Electronic mail addresses were secured utilizing each district's staff directory. There was no formal consent form for principals to complete to participate. Within the message were an explanation of the study and the universal resource locator (URL) address of the online survey form. The message included information that participation was voluntary, which allowed for participants to opt out of answering any item and out of the entire survey at any time. To ensure the data was kept confidential and to protect each participant's anonymity, no names or other personal identifying information were collected. The principal provided consent by visiting the URL and completing the survey. Surveys were collected over a period of 10 days and two weeks, respectively (District A – October 17, 2017-October 27, 2017 and District B – October 10, 2017-October 24, 2017). One reminder prompt about completing the survey sent via email midway through the data collection period for District B was sent on October 17, 2017. Per the agreement, no reminder prompts were sent to District A. At the end of the survey completion window, all data were uploaded into IBM® SPSS® Statistics Faculty Pack 24 for Windows for analysis.

Data Analysis and Hypothesis Testing

Johnson and Christensen (2008) defined a research question as "a statement of the specific question(s) to which the research seeks an answer" (p. 78). The following two research questions and corresponding hypotheses guided this study:

RQ1. To what extent is there a difference in grit scores between principal longevity groups?

H1. There is a difference in grit scores between principal longevity groups.

A two-factor analysis of variance (ANOVA) was conducted to address both research questions. The two categorical variables used to group the grit scores were principal longevity group and location of a school district. The two-factor ANOVA can be used to test three hypotheses including a main effect for principal longevity group, a main effect for location of a school district, and a two-way interaction effect (principal longevity group x location of a school district). The main effect for principal longevity was used to test H1. The level of significance was set at .05.

RQ2. To what extent is the difference in grit scores between principal longevity groups affected by the location of a school district, urban or suburban?

H2. Location of the school district, urban or suburban, does affect the difference in grit scores between principal longevity groups.

The interaction effect from the two-factor ANOVA (Principal Longevity Group X Location) was used to test H2. The level of significance was set at .05.

Limitations

Lunenburg & Irby (2008) described limitations as those factors out of the researcher's control that may affect the results of the study. One major limitation of this study was that no intentional effort was made to account for or explain any of a variety of potential mitigating factors that could also impact a principal's number of consecutive years serving in the same building. This limitation impacts the study due to the variety of

reasons that influence principals' voluntary and involuntary movements from one building to another.

Summary

The purpose of this study and the research questions were restated and presented in this chapter. The research design utilized correlation coefficients to examine principal longevity, as measured by principals' consecutive years of service in the same building, and principal grit scores. The participants in this study were principals from two school districts in the Kansas City metropolitan area. One survey instrument was used in this study. The 8-Item Grit-S was utilized to measure principal grit plus five additional items used to measure longevity and location of the school district (urban or suburban). In addition, the reliability and validity of the instrument were presented. Finally, the data collection procedures and the data analysis were also discussed in this chapter. The results of the analysis of the data, including descriptive statistics and the results of the hypothesis tests, are presented in Chapter 4.

Chapter 4

Results

The purpose of this study was to determine the difference in grit scores between principal longevity groups. A second purpose was to determine to what extent the difference in grit scores between principal longevity groups is affected by the location of a school district, urban or suburban. The results of statistical analyses for each of the two research questions are presented in this chapter.

Descriptive Statistics

The target population for this research study was inclusive of all 2017-2018 principals in two large school districts in the Kansas City metropolitan area. One district was located in a suburban area, and one was located in an urban area. The sample for this study was comprised of 88 principals who were serving as the principal of their building. There were 35 respondents; however, one respondent failed to answer all the grit questions. That survey was eliminated from the sample, which reduced the sample for the principals who responded to 34.

Background information was requested from each respondent. On the information question about the length of service in their position at the time of the study, principals reported responses from "just getting started" to 20 years. See Appendix I for the individual respondent data, including each respondent's calculated grit score, longevity group code, and school district location at the time of the study. The suburban school district was coded "S," and the urban school district was coded "U" in that table.

As indicated in Appendix I, the range of grit scores was 3.25 to 5.00. The average grit score for the entire sample was 4.08, which is in the top quintile of the scale. The

follow-up question regarding whether the respondents had prior experience as principal also yielded varying responses, with 16 principals reporting that they had served in prior positions as principal. Also, the principals were asked to identify the prior district location(s) for those prior experiences. See Table 1 for information regarding the total number of years in prior principal positions. The respondent numbers in Table 1 do not match the respondent numbers in Appendix I.

Table 1

Prior Principal Positions

Respondent	Total # of Prior Years	Location
1	9	S
2	7	S
3	11	U
4	3	U
5	6	U
6	6	S, U
7	1	S
8	12	R, S
9	24	S
10	20	S, U
11	3	S
12	11	U
13	6	U
14	22	R, S, U
15	2	U
16	6	U

Note. Rural school districts are coded "R," suburban school districts are coded "S," and urban school districts are coded "U."

Table 2 is a synthesis of the principal longevity groups and the location of the current school districts. Sixty-seven percent of participating principals had at least 5 years of experience as a principal, and the majority of principals worked in the suburban district. In fact, sixty-five percent of the respondent principals represented the suburban school district, while only thirty-five percent represented the urban school district.

Table 2

Crosstabulation of Longevity by Location

	Location		
Longevity	Suburban	Urban	Total
5 years or more	15	8	23
4 years or fewer	7	4	11
Total	22	12	34

Hypothesis Testing

The results of the statistical analyses used to test the hypotheses are included in this section. The two research questions were analyzed using a two-factor analysis of variance (ANOVA). The level of significance was set at .05 for both hypothesis tests in the study.

RQ1. To what extent is there a difference in grit scores between principal longevity groups?

H1. There is a difference in grit scores between principal longevity groups.

To test the hypothesis for research question 1, data were analyzed using the test for the main effect for principal longevity in the two-factor ANOVA. The results of the analysis indicated there was not a statistically significant difference between the means,

$F = .071$, $df = 1, 30$, $p = 0.792$. The average grit score for principals with 5 or more years of experience was no different from the average grit score for principals with 4 or fewer years of experience. H1 was not supported. See Table 3 for the means and standard deviations for this analysis.

Table 3

Descriptive Statistics for the Results of the Test for Hypothesis 1

Longevity	*M*	*SD*	*N*
5 years or more	4.07	.49	21
4 years or less	4.06	.32	13

RQ2. To what extent is the difference in grit scores between principal longevity groups affected by the location of a school district, urban or suburban?

H2. Location of the school district, urban or suburban, does affect the difference in grit scores between principal longevity groups.

To test the hypothesis for research question 2, data were analyzed using the test for the interaction effect for principal longevity by location in the two-factor ANOVA. The results of the analysis indicated there was not a statistically significant difference between at least two of the means, $F = 1.873$, $df = 1, 30$, $p = .181$. The difference in the average grit score between principals with 5 or more years of experience and principals with 4 or less years of experience was not affected by location (suburban, urban). H2 was not supported. See Table 4 for the means and standard deviations for this analysis.

Table 4

Descriptive Statistics for the Results of the Test for Hypothesis 2

Longevity	Location	*M*	*SD*	*N*
5 years or more	Suburban	4.13	.45	14
	Urban	4.27	.54	6
4 years or less	Suburban	3.95	.23	8
	Urban	3.96	.58	7

Summary

The results of statistical analyses for each of the two research questions were presented in this chapter. Results of the hypothesis testing indicated no statistical difference in grit scores between principal longevity groups. The location of the school district did not affect differences based on longevity. Chapter 5 is a summary of the study, including discussion of major findings of these results, connections to the relevant literature, implications of those findings, and recommendations for further research.

Chapter 5

Interpretation and Recommendations

Leadership is an important factor in the success of any organization. In education, building leadership impacts student achievement (Carbaugh, Marzano, & Toth, 2015; Kurth, 2016). As the building leaders, principals need time, at least 5-7 years, to affect change in their building (Mascall & Leithwood, 2010). Effective building leadership requires passion and perseverance, or grit. Additional factors, including the location of a school district, may contribute to principal longevity and grit.

Study Summary

The purpose of this study was to examine whether principal longevity impacted grit and whether the location of the school district affected the relationship between these two variables. The problem, purpose, research questions, methodology, and major findings are revisited in this section.

Overview of the problem. Retaining effective principals is key to positively impacting student achievement (Carbaugh et al., 2015; Kurth, 2016). Furthermore, the need for effective principals is greatest in high poverty and low achieving schools due to high principal turnover in those schools (Rice, 2009; Superville, 2014). Principals need to serve in the same building for at least 5-7 years to impact positive change in that building (Mascall & Leithwood, 2010). Numerous studies (Duckworth et al., 2007; Duckworth, 2016; Hochanadel & Finamore, 2015) indicate that qualities like grit may make principals more effective, but to date, no research has been found to support the direct relationship between principal longevity and grit.

Purpose statement and research questions. The purpose of this study was to determine the difference in grit scores between principal longevity groups. A second purpose was to determine to what extent the difference in grit scores between principal longevity groups is affected by the location of a school district, suburban or urban. The first research question was developed to examine the impact of grit on principal longevity. The second research question was developed to examine whether the location of the school district impacted the interaction between grit and principal longevity.

Review of the methodology. This study was a non-experimental, quantitative study using survey data and three variables. The three variables used in this study were grit, principal longevity, and location of the school district, suburban or urban. Thirty-four principals from two school districts in the Kansas City metropolitan area completed the 8-Item Grit-S to measure grit, plus five additional items used to measure longevity and location of the school district. Two-factor analyses of variance (ANOVA) were conducted to test (1) the difference in grit scores between principal longevity groups and (2) to what extent the difference in grit scores between principal longevity groups is affected by the location of a school district, suburban or urban.

Major findings. The results of the analyses were clear; there was no evidence to support the hypothesis of a difference in principal grit based on longevity or that location impacted that difference. No statistically significant difference was found in grit scores between principal longevity groups. Likewise, the location of the school district, suburban or urban, had no statistically significant impact on the differences in grit scores between principal longevity groups.

One of the major findings was that the average grit scores between principal longevity groups were not different. In fact, principals with five years of experience or more only had one-hundredth of a point higher average grit scores than their counterparts with less experience. These findings indicate that principals, in general, tend to record equal scores on the grit scale. These average scores also indicate that principals tend to score high on the Grit Scale.

Another major finding was that the location of the school district did not impact the average grit scores between principal longevity groups. Although the average grit score of suburban principals with four years of experience or less was the lowest, urban principals with four years of experience or less were only higher than their counterparts by one-hundredth of a point. These findings indicate that the average grit scores of principals were similar for both suburban and urban principals. Urban principals with five years of experience or more had the highest average grit scores by .14.

Findings Related to the Literature

The results of this study were contrary to previous research. Data analysis for the first research question indicated that the grit scores of principals with varying years of experience did not differ. Furthermore, data analysis for the second research question indicated that the location of the school district did not impact those grit scores. However, principals in general, with various years of experience and in different school district locations, tended to score high on the Grit Scale. Although research on the qualities of effective leadership did not explicitly include grit as one of those qualities, the findings of the current study may provide a basis for grit being recognized as an important quality of effective leadership (Giles, 2016; Kayworth & Leidner, 2002;

Wahlstrom et al., 2010; Zenger & Folkman, 2012). More specifically, grit could be added to the list of qualities related to effective principals (Berkowicz & Myers, 2017; Branch et al., 2012; Burkhauser, Gates, Hamilton, & Ikemoto, 2012; Grissom & Loeb, 2009; Hull, 2012; Krasnoff, 2015; Soehner & Thomas, 2011).

Duckworth et al. (2007) defined the term "grit" as "passion and perseverance for long-term goals" (p. 1087). Across contexts outside of education, grit has been found to be a consistent indicator of leadership effectiveness (Duckworth et al., 2009; Elam, 2015; Eskreis-Winkler, Shulman, & Duckworth, 2014). Grit has also been found to be an indicator of retention in various groups and contexts (Eskreis-Winkler, Shulman, Beal, & Duckworth, 2014; Robertson-Craft & Duckworth, 2014). In short, grit empowers leaders to be effective.

Conclusions

The findings from the current study did not confirm prior research. A number of factors beyond the location of a school district may have contributed to the lack of a relationship between principal longevity and grit. However, the results of the analyses are clear. Principals tended to have similar grit scores regardless of the number of years of experience they had serving as principal. Furthermore, the location of the school district, suburban or urban, had no significant impact on that interaction. Both urban and suburban principals tended to score high on the Grit Scale.

Implications for action. The results of the analyses in this study indicated that longevity and location of the school district, suburban or urban, do not matter when it comes to principal grit. Although this research did not yield evidence that supported either hypothesis, this does not negate the fact that grit is an important quality for

effective leadership. The research showed that all participating principals were individuals who tended to score high on the Grit Scale. Given the importance of building leadership, districts should continue to search for processes and measures that identify the strongest potential building leader candidates. Furthermore, districts should continue to find ways of developing those leaders once they are hired.

Recommendations for future research. The retention of effective principals in schools, especially those schools with high poverty and low achievement, is imperative to student achievement overall. While the outcomes of this study demonstrated no difference in the grit scores between groups of principals who had five years or more of experience and those with less experience, the findings cannot be generalized to all principals. Furthermore, these outcomes do not diminish the importance of grit in building leaders. The methodology utilized in this study could be replicated in other school districts to determine if there is a statistically significant difference between other principal longevity groups. In addition, the study could be expanded to include rural school districts or districts in different regions across the nation.

Districts could also conduct action research with their principal applicants and hires. They could administer the Grit Scale to all applicants and monitor the long-term success or failure of those applicants who are hired as principals. In conducting this action research, districts could refine their hiring practices by adding another screening tool to their screening process.

The researcher did not collect demographic data regarding principal race, ethnicity, sex, gender, etc. There was also no effort made to collect objective measures of student achievement to analyze principal effectiveness. Finally, all the data was self-

reported. Future research could include more objective data collection measures, including principal effectiveness measures. These factors, among others, should be considered in future research to produce more specific and robust conclusions on principal longevity, grit, and the impact that the location of the school district has on that interaction.

Concluding remarks. Effective building leadership is an important indicator of student achievement. This study sought to determine whether grit impacted principal longevity. The results of this study, though limited in scope, indicated that there was no difference in grit scores between principal longevity groups. All principals in the sample reported relatively high scores of grit. The results of this study provided a foundation for future research on principal longevity and grit. Student achievement is the goal, and to reach it, we need effective and long-lasting building leaders.

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Appendices

Appendix A: Request to Use 12-Item Grit Scale

April 5, 2017

Dear Dr. Duckworth:

I am a doctoral student from Baker University writing my dissertation tentatively titled "Principal Longevity and the Grit Factor" under the direction of my dissertation committee chaired by Dr. Russ Kokoruda. Baker's main campus is located in Baldwin City, KS. I attend the School of Professional and Graduate Studies campus in Overland Park, KS.

I would like your permission to reproduce and use the 12-Item Grit Scale (previously published in the Journal of Personality and Social Psychology in 2007) survey instrument in my research study. I would like to use and print your survey under the following conditions:

- I will use this survey only for my research study and will not sell or use it with any compensated or curriculum development activities.
- I will include the copyright statement on all copies of the instrument.
- I will send my research study and one copy of reports, articles, and the like that make use of these survey data promptly to your attention.

If these are acceptable terms and conditions, please indicate so by e-mailing me at DiamondLHowell@stu.bakeru.edu.

Sincerely,
Diamond L. Howell
Doctoral Candidate

Appendix B. Approval to Use The Grit Scale

Wed 4/5, 9:14 AM
Diamond Howell
You forwarded this message on 4/10/2017 6:21 PM

Hi Diamond,

As detailed here, http://angeladuckworth.com/research/, the Grit Scale can be used for educational or research purposes. However, it cannot be used for any commercial purpose, nor can it be reproduced in any publication. You are free to use it in your research as long as you follow these guidelines.

Note that we discourage using the scale to evaluate students or employees. As Angela discusses in this paper and this Q&A and this op-ed, the scale is not ready for high-stakes assessment; it is ready for research and internal use.

Thanks for all the work you do!

Best,
Duckworth Team

Appendix C. Baker University IRB Form

BAKER UNIVERSITY

School of Education
Graduate Department

Date: July 25, 2017

IRB PROTOCOL NUMBER _____
(IRB USE ONLY)

IRB Request
Proposal for Research
Submitted to the Baker University Institutional Review Board

I. Research Investigator(s) (Students must list faculty sponsor first)

Department(s) **School of Education Graduate Department**

Name	Signature	
1. Dr. Russ Kokoruda	Russell D. Kokoruda	Major Advisor
2. Dr. Margaret Waterman	Margaret Waterman	Research Analyst
3.	_____,	University Committee Member
4.		External Committee Member

Principal Investigator: Diamond Howell
Phone: (913) 426-6450
Email: DiamondLHowell@stu.bakeru.edu
Mailing address: 537 N 83rd St, Kansas City, KS 66112

Faculty sponsor: Russ Kokoruda
Phone: (913) 344-1221
Email: Russ.Kokoruda@bakeru.edu

Expected Category of Review: X Exempt ___ Expedited ___Full

II: Protocol: (Type the title of your study)
Principal Longevity and the "Grit" Factor

Summary

In a sentence or two, please describe the background and purpose of the research.

The purpose of this study will be to determine to what extent there is a difference in grit scores among principal longevity groups. A second purpose will be to determine to what extent the difference in grit scores among principal longevity groups is affected by the location of the school district, urban or suburban.

Briefly describe each condition or manipulation to be included within the study.

There are no conditions or manipulations in this study.

What measures or observations will be taken in the study? If any questionnaire or other instruments are used, provide a brief description and attach a copy.

The 12-Item Grit Scale will be used for this study and was originally published by Duckworth, Peterson, Matthews, & Kelly in 2007. The 12-Item Grit Scale was designed to measure grit in participants using their responses to Likert-type items, such as, "I have overcome setbacks to conquer an important challenge" on a scale from 1 to 5, with 1 representing "not like me at all" and 5 representing "very much like me". Half of the items on the survey were reverse-scaled. In order to calculate a grit score for each principal, points will be added up and divided by 12. The maximum score of 5 indicates that one is "extremely gritty", while the lowest score of 1 indicates that one is "not at all gritty". A request to use the 12-Item Grit Scale was sent to the primary author of the scale on April 5, 2017, and approval to use the scale was granted on that same day.

Five additional questions were asked in order to obtain the number of years each principal served in his or her current building, the number of years served in any prior principal assignments, and the location of the school district(s) (urban or suburban) during each of those assignments.

Will the subjects encounter the risk of psychological, social, physical, or legal risk? If so, please describe the nature of the risk and any measures designed to mitigate that risk.

No. The study will use survey data gathered utilizing a web-based technology; thus, the subjects will not encounter any risk of psychological, social, physical, or legal risks.

Will any stress to subjects be involved? If so, please describe.

No. There will be no stress to subjects in this study; only survey data will be used.

Will the subjects be deceived or misled in any way? If so, include an outline or script of the debriefing.

No. The survey asks twelve questions about grit. There will be five additional questions asked to obtain the number of years each principal served in his or her current building, the number of years served in any prior principal assignments, and the location of the school district(s) (urban or suburban) during each of those assignments.

Will there be a request for information which subjects might consider to be personal or sensitive? If so, please include a description.

No. The survey asks twelve questions about grit. There will be five additional questions asked to obtain the number of years each principal served in his or her current building, the number of years served in any prior principal assignments, and the location of the school district(s) (urban or suburban) during each of those assignments.

Will the subjects be presented with materials which might be considered to be offensive, threatening, or degrading? If so, please describe.

No. The survey asks twelve questions about grit. There will be five additional questions asked to obtain the number of years each principal served in his or her current building, the number of years served in any prior principal assignments, and the location of the school district(s) (urban or suburban) during each of those assignments.

Approximately how much time will be demanded of each subject?

Each subject will spend approximately 20 minutes completing the survey at his or her leisure.

Who will be the subjects in this study? How will they be solicited or contacted? Provide an outline or script of the information which will be provided to subjects prior to their volunteering to participate. Include a copy of any written solicitation as well as an outline of any oral solicitation.

Current principals from two large school districts in the Kansas City metropolitan area will complete the survey. Subjects will be contacted via their school email addresses, which will be obtained through each district's institutional review board. The following script will used to solicit participation.

Hello, my name is Diamond Howell. I am a graduate student at Baker University conducting a research study to determine whether or not there is a relationship between principal longevity, as measured by principals' consecutive number of years of service in the same building, and principal grit scores. Would you be willing to take approximately 15-20 minutes to complete the survey attached to this introduction? Your responses will be anonymous; there is no way for me to know who filled out a survey. Feel free to skip any questions that you do not want to answer. If you have questions about the survey, please feel free to email me at DiamondLHowell@stu.bakeru.edu. If you choose to participate, please click on the link below to begin the survey. Thank you in advance for your time.

Weekly prompts to remind subjects who have not completed the survey will be sent including the same message from above.

What steps will be taken to insure that each subject's participation is voluntary? What if any inducements will be offered to the subjects for their participation?

Each participant will receive an email with an explanation of the study and the URL address of the online survey form. The message will include information that participation was voluntary, which allows for participants to opt out of answering any item and out of the entire survey at any time. There will be no inducements offered to subjects for their participation.

How will you insure that the subjects give their consent prior to participating? Will a written consent form be used? If so, include the form. If not, explain why not.

Each subject will provide consent prior to participating by visiting the URL and completing the survey. No written consent form will be used.

Will any aspect of the data be made a part of any permanent record that can be identified with the subject? If so, please explain the necessity.

No aspect of the data will be made a part of any permanent record that can be identified with any subject.

Will the fact that a subject did or did not participate in a specific experiment or study be made part of any permanent record available to a supervisor, teacher or employer? If so, explain.

No aspect of the data will be made a part of any permanent record that can be identified with any subject.

What steps will be taken to insure the confidentiality of the data? Where will it be stored? How long will it be stored? What will be done with it after the study is completed?

Surveys will be submitted to the primary investigator through a web-based technology with no personally identifying information included on the survey. Data will be stored on a password-secured flash drive and a password-protected hard-drive for a period of three years from the completion of the study, after which the data will be destroyed.

If there are any risks involved in the study, are there any offsetting benefits that might accrue to either the subjects or society?

No risks will be involved in this study.

Will any data from files or archival data be used? If so, please describe.

No data from files or archival data will be used in this study.

Appendix D. Baker University IRB Approval Letter

BAKER UNIVERSITY
Own Confidence

Baker University Institutional Review Board

August 24, 2017

Dear Diamond Howell and Dr. Russell Kokoruda,

The Baker University IRB has reviewed your research project application and approved this project under Expedited Status Review. As described, the project complies with all the requirements and policies established by the University for protection of human subjects in research. Unless renewed, approval lapses one year after approval date.

Please be aware of the following:

1. Any significant change in the research protocol as described should be reviewed by this Committee prior to altering the project.
2. Notify the IRB about any new investigators not named in original application.
3. When signed consent documents are required, the primary investigator must retain the signed consent documents of the research activity.
4. If this is a funded project, keep a copy of this approval letter with your proposal/grant file.
5. If the results of the research are used to prepare papers for publication or oral presentation at professional conferences, manuscripts or abstracts are requested for IRB as part of the project record.

Please inform this Committee or myself when this project is terminated or completed. As noted above, you must also provide IRB with an annual status report and receive approval for maintaining your status. If you have any questions, please contact me at EMorris@BakerU.edu or 785.594.7881.

Sincerely,

Erin R. Morris

Erin Morris PhD
Chair, Baker University IRB

Baker University IRB Committee
Joe Watson PhD
Nate Poell MA
Susan Rogers PhD
Scott Crenshaw

Appendix E. District A IRB Form

Date: August 3, 2017

IRB Request
Proposal for Research
Submitted to the
District A Institutional Review Board

I. Research Investigator(s)

Principal Investigator: Diamond Howell
Phone: (913) 426-6450
Email: DiamondLHowell@stu.bakeru.edu, diamond.howell@kckps.org
Mailing address: 537 N 83rd St, Kansas City, KS 66112

Faculty sponsor: Russ Kokoruda
Phone: (913) 344-1221
Email: Russ.Kokoruda@bakeru.edu

II: Protocol: (Type the title of your study)
Principal Longevity and the "Grit" Factor

Summary

In a sentence or two, please describe the background and purpose of the research.

The purpose of this study will be to determine to what extent there is a difference in grit scores among principal longevity groups. A second purpose will be to determine to what extent the difference in grit scores among principal longevity groups is affected by the location of the school district, urban or suburban.

Briefly describe each condition or manipulation to be included within the study.

There are no conditions or manipulations in this study.

What measures or observations will be taken in the study? If any questionnaire or other instruments are used, provide a brief description and attach a copy.

The 12-Item Grit Scale will be used for this study and was originally published by Duckworth, Peterson, Matthews, & Kelly in 2007. The 12-Item Grit Scale was designed to measure grit in participants using their responses to Likert-type items, such as, "I have overcome setbacks to conquer an important challenge" on a scale from 1 to 5, with 1 representing "not like me at all" and 5 representing "very much like me". Half of the items on the survey were reverse-scaled. In order to calculate a grit score for each principal, points will be added up and divided by 12. The maximum score of 5 indicates

that one is “extremely gritty”, while the lowest score of 1 indicates that one is “not at all gritty”. A request to use the 12-Item Grit Scale was sent to the primary author of the scale on April 5, 2017, and approval to use the scale was granted on that same day.

Five additional questions were asked in order to obtain the number of years each principal served in his or her current building, the number of years served in any prior principal assignments, and the location of the school district(s) (urban or suburban) during each of those assignments.

Will the subjects encounter the risk of psychological, social, physical, or legal risk? If so, please describe the nature of the risk and any measures designed to mitigate that risk.

No. The study will use survey data gathered utilizing a web-based technology; thus, the subjects will not encounter any risk of psychological, social, physical, or legal risks.

Will any stress to subjects be involved? If so, please describe.

No. There will be no stress to subjects in this study; only survey data will be used.

Will the subjects be deceived or misled in any way? If so, include an outline or script of the debriefing.

No. The survey asks twelve questions about grit. There will be five additional questions asked to obtain the number of years each principal served in his or her current building, the number of years served in any prior principal assignments, and the location of the school district(s) (urban or suburban) during each of those assignments.

Will there be a request for information which subjects might consider to be personal or sensitive? If so, please include a description.

No. The survey asks twelve questions about grit. There will be five additional questions asked to obtain the number of years each principal served in his or her current building, the number of years served in any prior principal assignments, and the location of the school district(s) (urban or suburban) during each of those assignments.

Will the subjects be presented with materials which might be considered to be offensive, threatening, or degrading? If so, please describe.

No. The survey asks twelve questions about grit. There will be five additional questions asked to obtain the number of years each principal served in his or her current building, the number of years served in any prior principal assignments, and the location of the school district(s) (urban or suburban) during each of those assignments.

Approximately how much time will be demanded of each subject?

Each subject will spend approximately 20 minutes completing the survey at his or her leisure.

Who will be the subjects in this study? How will they be solicited or contacted? Provide an outline or script of the information which will be provided to subjects prior to their volunteering to participate. Include a copy of any written solicitation as well as an outline of any oral solicitation.

Current principals from two large school districts in the Kansas City metropolitan area will complete the survey. Subjects will be contacted via their school email addresses, which will be obtained through each district's institutional review board. The following script will used to solicit participation.

Hello, my name is Diamond Howell. I am a graduate student at Baker University conducting a research study to determine whether or not there is a relationship between principal longevity, as measured by principals' consecutive number of years of service in the same building, and principal grit scores. Would you be willing to take approximately 15-20 minutes to complete the survey attached to this introduction? Your responses will be anonymous; there is no way for me to know who filled out a survey. Feel free to skip any questions that you do not want to answer. If you have questions about the survey, please feel free to email me at DiamondLHowell@stu.bakeru.edu. If you choose to participate, please click on the link below to begin the survey. Thank you in advance for your time.

Weekly prompts to remind subjects who have not completed the survey will be sent including the same message from above.

What steps will be taken to insure that each subject's participation is voluntary? What if any inducements will be offered to the subjects for their participation?

Each participant will receive an email with an explanation of the study and the URL address of the online survey form. The message will include information that participation was voluntary, which allows for participants to opt out of answering any item and out of the entire survey at any time. There will be no inducements offered to subjects for their participation.

How will you insure that the subjects give their consent prior to participating? Will a written consent form be used? If so, include the form. If not, explain why not.

Each subject will provide consent prior to participating by visiting the URL and completing the survey. No written consent form will be used.

Will any aspect of the data be made a part of any permanent record that can be identified with the subject? If so, please explain the necessity.

No aspect of the data will be made a part of any permanent record that can be identified with any subject.

Will the fact that a subject did or did not participate in a specific experiment or study be made part of any permanent record available to a supervisor, teacher or employer? If so, explain.

No aspect of the data will be made a part of any permanent record that can be identified with any subject.

What steps will be taken to insure the confidentiality of the data? Where will it be stored? How long will it be stored? What will be done with it after the study is completed?

Surveys will be submitted to the primary investigator through a web-based technology with no personally identifying information included on the survey. Data will be stored on a password-secured flash drive and a password-protected hard-drive for a period of three years from the completion of the study, after which the data will be destroyed.

If there are any risks involved in the study, are there any offsetting benefits that might accrue to either the subjects or society?

No risks will be involved in this study.

Will any data from files or archival data be used? If so, please describe.

No data from files or archival data will be used in this study.

Appendix F. District B IRB Form

Date: August 17, 2017

IRB Request
Proposal for Research
Submitted to the
District B Institutional Review Board

I. Research Investigator(s)

Principal Investigator: Diamond Howell
Phone: (913) 426-6450
Email: DiamondLHowell@stu.bakeru.edu, diamond.howell@kckps.org
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II: Protocol: (Type the title of your study)
Principal Longevity and the "Grit" Factor

Summary

In a sentence or two, please describe the background and purpose of the research.

The purpose of this study will be to determine to what extent there is a difference in grit scores among principal longevity groups. A second purpose will be to determine to what extent the difference in grit scores among principal longevity groups is affected by the location of the school district, urban or suburban.

Briefly describe each condition or manipulation to be included within the study.

There are no conditions or manipulations in this study.

What measures or observations will be taken in the study? If any questionnaire or other instruments are used, provide a brief description and attach a copy.

The 12-Item Grit Scale will be used for this study and was originally published by Duckworth, Peterson, Matthews, & Kelly in 2007. The 12-Item Grit Scale was designed to measure grit in participants using their responses to Likert-type items, such as, "I have overcome setbacks to conquer an important challenge" on a scale from 1 to 5, with 1 representing "not like me at all" and 5 representing "very much like me". Half of the items on the survey were reverse-scaled. In order to calculate a grit score for each principal, points will be added up and divided by 12. The maximum score of 5 indicates

that one is “extremely gritty”, while the lowest score of 1 indicates that one is “not at all gritty”. A request to use the 12-Item Grit Scale was sent to the primary author of the scale on April 5, 2017, and approval to use the scale was granted on that same day.

Five additional questions were asked in order to obtain the number of years each principal served in his or her current building, the number of years served in any prior principal assignments, and the location of the school district(s) (urban or suburban) during each of those assignments.

Will the subjects encounter the risk of psychological, social, physical, or legal risk? If so, please describe the nature of the risk and any measures designed to mitigate that risk.

No. The study will use survey data gathered utilizing a web-based technology; thus, the subjects will not encounter any risk of psychological, social, physical, or legal risks.

Will any stress to subjects be involved? If so, please describe.

No. There will be no stress to subjects in this study; only survey data will be used.

Will the subjects be deceived or misled in any way? If so, include an outline or script of the debriefing.

No. The survey asks twelve questions about grit. There will be five additional questions asked to obtain the number of years each principal served in his or her current building, the number of years served in any prior principal assignments, and the location of the school district(s) (urban or suburban) during each of those assignments.

Will there be a request for information which subjects might consider to be personal or sensitive? If so, please include a description.

No. The survey asks twelve questions about grit. There will be five additional questions asked to obtain the number of years each principal served in his or her current building, the number of years served in any prior principal assignments, and the location of the school district(s) (urban or suburban) during each of those assignments.

Will the subjects be presented with materials which might be considered to be offensive, threatening, or degrading? If so, please describe.

No. The survey asks twelve questions about grit. There will be five additional questions asked to obtain the number of years each principal served in his or her current building, the number of years served in any prior principal assignments, and the location of the school district(s) (urban or suburban) during each of those assignments.

Approximately how much time will be demanded of each subject?

Each subject will spend approximately 20 minutes completing the survey at his or her leisure.

Who will be the subjects in this study? How will they be solicited or contacted? Provide an outline or script of the information which will be provided to subjects prior to their volunteering to participate. Include a copy of any written solicitation as well as an outline of any oral solicitation.

Current principals from two large school districts in the Kansas City metropolitan area will complete the survey. Subjects will be contacted via their school email addresses, which will be obtained through each district's institutional review board. The following script will used to solicit participation.

Hello, my name is Diamond Howell. I am a graduate student at Baker University conducting a research study to determine whether or not there is a relationship between principal longevity, as measured by principals' consecutive number of years of service in the same building, and principal grit scores. Would you be willing to take approximately 15-20 minutes to complete the survey attached to this introduction? Your responses will be anonymous; there is no way for me to know who filled out a survey. Feel free to skip any questions that you do not want to answer. If you have questions about the survey, please feel free to email me at DiamondLHowell@stu.bakeru.edu. If you choose to participate, please click on the link below to begin the survey. Thank you in advance for your time.

Weekly prompts to remind subjects who have not completed the survey will be sent including the same message from above.

What steps will be taken to insure that each subject's participation is voluntary? What if any inducements will be offered to the subjects for their participation?

Each participant will receive an email with an explanation of the study and the URL address of the online survey form. The message will include information that participation was voluntary, which allows for participants to opt out of answering any item and out of the entire survey at any time. There will be no inducements offered to subjects for their participation.

How will you insure that the subjects give their consent prior to participating? Will a written consent form be used? If so, include the form. If not, explain why not.

Each subject will provide consent prior to participating by visiting the URL and completing the survey. No written consent form will be used.

Will any aspect of the data be made a part of any permanent record that can be identified with the subject? If so, please explain the necessity.

No aspect of the data will be made a part of any permanent record that can be identified with any subject.

Will the fact that a subject did or did not participate in a specific experiment or study be made part of any permanent record available to a supervisor, teacher or employer? If so, explain.

No aspect of the data will be made a part of any permanent record that can be identified with any subject.

What steps will be taken to insure the confidentiality of the data? Where will it be stored? How long will it be stored? What will be done with it after the study is completed?

Surveys will be submitted to the primary investigator through a web-based technology with no personally identifying information included on the survey. Data will be stored on a password-secured flash drive and a password-protected hard-drive for a period of three years from the completion of the study, after which the data will be destroyed.

If there are any risks involved in the study, are there any offsetting benefits that might accrue to either the subjects or society?

No risks will be involved in this study.

Will any data from files or archival data be used? If so, please describe.

No data from files or archival data will be used in this study.

Appendix G. District A IRB Approval Email

Hello,

I have spoken with most of the Executive Directors and they have indicated it is okay for you to proceed with your survey. Please find attached an agreement that allows you to send one e-mail to principals regarding the survey to solicit participation with the understanding that you will not follow up with further communication to principals that do not participate based on the initial e-mail. As stated in the agreement, no personally identifiable information for any staff or school may be part of any reporting.

Please sign the attached agreement and return it to me and I will sign and send it back. If you have any questions, please let me know. Thanks!!!!

Appendix H. District B IRB Approval Email

Hi, Diamond-

The Research Review Board has reviewed your request to conduct research in District B. We will approve your request with the following modification.

*Instead of weekly email reminders to our principals, we will allow one initial email and one reminder email. (2 emails total)

We'd also like to share one recommendation: Possibly include your research definition of *grit* in your initial email or survey. Our board wasn't sure if you have a working definition or if your research will help you define *grit.* We know there are many interpretations out there as it's a hot topic in education. Feel free to delete our recommendation if you wish.

Please keep in mind, participation will be voluntary. As a reminder, do not use the district's name or any identifiable information about any participant in the report of your findings. We are excited to hear your results. Please send a copy of those to this office within 30 days of the conclusion of your research.

Appendix I. Individual Respondent Data

Individual Respondent Data

Respondent	*Grit*	*Longevity*	*Location*
1	4.50	5+	S
2	4.25	5+	S
3	3.88	4-	S
4	3.88	4-	S
5	3.88	5+	S
6	4.50	5+	S
7	4.13	4-	U
8	4.25	5+	U
9	4.50	4-	U
10	4.75	5+	U
11	3.75	4-	S
12	4.75	5+	U
13	3.88	4-	U
14	3.88	4-	S
15	4.00	5+	S
16	5.00	5+	S
17	3.38	5+	S
18	4.00	4-	S
19	4.13	5+	S
20	4.38	4-	S
21	4.38	5+	S
22	4.00	5+	S
23	3.50	5+	S
24	4.13	4-	S
25	3.63	5+	U
26	3.25	5+	U
27	4.13	5+	S

28	4.13	5+	S
29	4.75	5+	U
30	3.88	4-	U
31	4.25	5+	S
32	3.63	5+	U
33	3.50	5+	S
34	3.75	5+	U