

THE CONTRIBUTING FACTORS TO TEACHER RETENTION AND ATTRITION
AND THE IMPACT OF PRINCIPALS ON THOSE DECISIONS

by

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Dedication

I dedicate this work to the One who through all things gives me strength. My family, for their continuous support, encouragement, inspiration and unwavering belief in me; some of whom were not able to see my graduation but impacted my life immensely. My rock for staying steady and making this possible; my son, who will be my greatest legacy and reason why I want to make the world a better place each day.

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Table of Contents

	Page
List of Tables	vi
List of Figures	vii
List of Abbreviations	viii
Abstract	i
Chapter One - Introduction	1
Significance	4
Theoretical Basis for the Study.....	13
Chapter Two – Review of the Literature	15
The Issue	17
Principal Role Development	27
Role Complexity	31
Conclusion	34
Chapter Three – Methodology and Procedures	37
Research Questions.....	38
Research Design	38
Participants.....	41
Measures	41
Trustworthiness.....	42
Ethics of the Researcher	43
Procedures.....	44
Data Analysis	49
Limitations	51
Chapter Four – Results and Analysis.....	55
Descriptive Statistics.....	56
Data Analysis and Findings	64
Qualitative Interview Statistical Data Analysis and Findings	108

Chapter Five – Discussion	134
Review of Literature	134
Summary	136
Conclusion	139
Implications for Action	145
Future Research	148
Appendix A	150
Appendix B	153
Appendix C	155
Appendix D	162
Appendix E	164
Appendix G	167
Appendix H	171
Appendix I	178
Appendix J	181
References	225

List of Tables

Table	Page
<i>Table 1.</i> Reliability Statistics: Cronbach’s Alpha for Survey Instrument	46
<i>Table 2.</i> Data Collection and Analysis	51
<i>Table 3.</i> Descriptive Statistics of School Level	57
<i>Table 4.</i> Descriptive Statistics of Number of Years worked in current building.....	58
<i>Table 5.</i> Descriptive Statistics of Total Number of Years Worked as a Teacher	58
<i>Table 6.</i> Descriptive Statistics of Number of Years Worked in the District.....	59
<i>Table 7.</i> Descriptive Statistics of Number of Years Worked with Current Principal	60
<i>Table 8.</i> Descriptive Statistics of Highest Degree or Level of School	61
<i>Table 9.</i> Descriptive Statistics of Gender	62
<i>Table 10.</i> Descriptive Statistics of Race	63
<i>Table 11.</i> Descriptive Statistics of Immediate Professional Plans for the Next School Year	64
<i>Table 12.</i> Six Factors with Mean Attribution of Importance of 4/5 or Higher – ALL Sub Group	71
<i>Table 13.</i> Four Factors with Mean Attribution of Importance of 4/5 or Higher – Leavers Sub Group	75
<i>Table 14.</i> Four Factors with Mean Attribution of Importance of 4/5 or Higher – Movers Sub Group	77
<i>Table 15.</i> Ten Factors with Mean Attribution of Importance of 4/5 or Higher – Stayers Sub Group	80
<i>Table 16.</i> Factors with Mean Attribution of Importance of 4/5 or Higher – All Sub Group	87
<i>Table 17.</i> Factors with Mean Attribution of Importance of 4/5 or Higher – Leavers Sub Group	92
<i>Table 18.</i> Factors with Mean Attribution of Importance of 4/5 or Higher – Movers Sub Group	94
<i>Table 19.</i> Factors with Mean Attribution of Importance of 4/5 or Higher – Stayers Sub Group	97
<i>Table 20.</i> Binary Logistic Regression of Coefficients.....	104
<i>Table 21.</i> Sample Teacher Responses to Open-Ended Interview Questions	110
<i>Table 22.</i> Data Triangulation	125

List of Figures

Figure	Page
<i>Figure 1. Approach to Principal Leadership</i>	10
<i>Figure 2. Teacher attrition factors</i>	27
<i>Figure 3. Concept map of administrative support and teacher retention</i>	36
<i>Figure 4. Flowchart of explanatory sequential mixed-methods study</i>	39
<i>Figure 5. Procedural steps that were followed with timeframe</i>	45
<i>Figure 6. Interview Selection Process of Participants from the survey</i>	48
<i>Figure 7. Mean attribution of importance for all factors</i>	67
<i>Figure 8. Factors with Mean attribution of importance above four with Standard Deviation below one for all participants</i>	70
<i>Figure 9. Factors with Mean attribution of importance above four for leavers</i>	73
<i>Figure 10. Factors with Mean attribution of importance above four with Standard Deviation below one for movers</i>	76
<i>Figure 11. Factors with Mean attribution of importance above four with Standard Deviation below one for stayers</i>	79
<i>Figure 12. Mean attribution of importance for retention/attrition principal's contribution</i>	86
<i>Figure 13. Mean attribution of importance for retention/attrition principal's contribution – Leavers Sub Group</i>	90
<i>Figure 14. Mean attribution of importance for retention/attrition principal's contribution – Movers Sub Group</i>	93
<i>Figure 15. Mean attribution of importance for retention/attrition principal's contribution – Stayers Sub Group</i>	96
<i>Figure 16. Teacher attrition factors based off study</i>	137

List of Abbreviations

Leavers	Teachers leaving the district
Movers	Teachers moving to another school within the district
Stayers	Teachers persisting in the same school

Abstract

THE CONTRIBUTING FACTORS TO TEACHER RETENTION AND ATTRITION AND THE IMPACT OF PRINCIPALS ON THOSE DECISIONS

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Teacher retention and attrition in the United States is, and has been, an issue of major concern for policy makers and administrators. Exacerbating this on-going issue is a teacher shortage. High teacher attrition rates hinder schools in their ability to provide quality instruction, impact school culture, and drain schools and districts financially, including occasioning greater costs devoted to human capital investment. Prior research has provided insight into the teacher and organizational factors associated with attrition and the detrimental impact that it has on our schools. Less attention, however, has been placed on administrative influence, and even less, addressing the organizational contexts surrounding teachers who leave the district (Leavers), and move from their school to another school within the district (Movers), in addition to those who persist (Stayers). Attrition is a significant problem facing all schools, but the problem is more severe among high need schools forced to spend much needed financial and other resources on recruitment and training efforts to replace the large percentages of teachers leaving within their first few years. Given the need to retain high-quality teachers, and the significant

influence that administration may have on these decisions, research is needed to understand this relationship, and the ways in which principals work to retain their teachers.

Employing sequential explanatory design; and using a district level survey of all teachers, logistic regression and follow-up interviews of teachers at each school level this mixed-methods study explored two primary questions.

1. What are the reasons teachers leave or stay in their school, their school district, or profession?
2. In what ways do principals contribute to teacher decisions to leave or stay in their school, district, and profession?

Additionally, this study sought a more in depth understanding of the factors contributing to teacher decisions in leaving, moving, or staying in school, district or profession.

Lastly, of those contributing factors; identified through district-level survey, what, specifically, was or is the role that the building principal played regarding any of these stated decisions.

Through data analysis and triangulation and integration of the qualitative and quantitative findings, the results of this study suggest that school culture/morale; teacher autonomy; student relationships, behavior, and achievement are at the center of teacher decision making with regard to attrition decisions. Through survey and follow up interviews it was determined that a principal's focus on the aspects outlined above and explored below, can directly and indirectly impact teacher retention and attrition.

Chapter One - Introduction

Amidst the era of educational reform, administrators and policymakers are in perpetual search for ways in which to attract and retain qualified individuals, particularly in hard-to-staff schools and fields. According to the National Commission on Teaching and America's Future (2003), over 33% of America's new teachers resigned within their first three years and almost 50% during their first five years. Among those beginning in the 2007-2008 year, the attrition rates increased to 55% (Gray & Taie, 2015). These rates are highest in schools that serve large numbers of low-income, low-performing, and minority students (Hanushek, Kain, & Rivkin, 2004). This issue has continued for years and is compounded by the fact that schools are not only losing candidates, but there is a shortage of candidates for these empty positions.

This issue is seen even in universities through teacher candidate enrollment. The U.S. Department of Education Office of Postsecondary Education (2015) found that teacher education enrollment dropped from 691,000 to 451,000, a 35% reduction, between 2009 and 2014. Additionally, the issue of teacher shortages is at the forefront of education policy concerns. The most recent data from the US Department of Education show students in high poverty districts are more than twice as likely to be taught by teachers with temporary or alternative licenses and more than 500,000 Black students attend schools where one of every five teachers do not meet state certification

requirements. Black and Hispanic students are more than four times more likely than White students to attend schools or be in classrooms where teachers are not certified (Sutcher, Darling-Hammond, & Carver-Thomas, 2016).

This issue situates a great deal of pressure on school leaders due to the detrimental effects, both human and fiscal, of high teacher attrition, particularly among high-poverty low-achieving schools (Heck, 2010; Darling-Hammond, 2010). These high need schools must spend much needed financial and other resources on recruitment and training efforts, to replace a large percentage of teachers leaving within their first few years. Tens of thousands of teachers were emergency certified in 2015 and 2016, and this pattern continues. According to Markovich (2015), schools have limited options to increase class sizes, cancel classes, and fill classes with substitute or uncertified teachers. All of these solutions decrease the quality of education, especially for the students in the most high-need schools. Given the need to retain high-quality teachers, there is a vast amount of research but competing perspectives from those that focus on the individual teacher to those that focus on the external structure. Additional research is needed to address the role of school administration in creating conditions related to the teachers and to the organization that will cause the teachers to stay in their schools and in their districts to immediately stop this “crisis” (Markovich, 2015).

In this study, I examine the ways in which principals can work to retain their teachers through an understanding of what makes teachers stay in their schools, move to other schools, or leave their districts or the profession. I explore this ongoing problem through the lens of the influence of administrative support and contribute to the research

literature through addressing a gap in focus and method. I do so through focusing more deeply on administrative support in retention and attrition by surveying and interviewing both stayers, movers, and leavers within this study. Additionally, the contribution will be made through a method of full district level survey and subsequent follow-up interviews of purposefully selected participants across all above outlined groups to triangulate data on the contributing factors to teacher retention and attrition in school, district and profession related to administrative impact. Ladd (2011) found that teachers' perceptions of school leadership are more predictive of their intentions to persist in the school or to find alternative jobs than are their perceptions of any other school working condition. I will explore the impact that school principals can have on teacher attrition decisions for Leavers (defined as those leaving teaching in their district in the year of data collection, to include those leaving the district for another district as well those leaving the profession), Stayers (defined as those teaching in the same school as in the year of data collection as the previous year) and Movers (defined as those teaching at a different school within the same district in the year of data collection). My research will address these questions: What are the reasons teachers leave or stay in their school, their school district, or profession? In what ways do principals contribute to teacher decisions to leave or stay in their school, district, and profession? Given the significant influence that administration can have on these decisions, research is needed to understand the ways in which principals have and can continue to influence the retention or attrition of their teachers.

Significance

A study published by the New Teacher Center (NTC), reported that more than one million of the 3.4 million teachers across the United States move in and out of schools annually, and averages 24% of teachers within a school each year, costing school districts and states upward of two billion dollars annually. Many of these teachers choose to leave schools that serve large numbers of poor, low-performing, and minority students (Boyd, Lankford, Loeb, & Wyckoff, 2005; Hanushek, Kain, & Rivkin, 2004). Only 16% of this attrition at the school level is due to retirement, the other 84% of turnover is explained by between school transfers and leaving the profession entirely (Alliance for Excellent Education, 2008). There is a substantial amount of literature on teacher turnover; however, far less has been done to understand how school administration affects the turnover rate.

This issue is also cited nationally by the National Center for Education Statistics, which reported that student enrollment has steadily increased between 2004 and 2016 (National Center for Education Statistics, 2009) and between 2013–2026, total enrollment is projected to increase by 3%, from 50.0 million to 51.4 million students, with as high of an increase as 39% (National Center for Education Statistics, 2016). In addition to the rise in student population, the Baby Boom generation, those born between 1946 and 1964, comprises 53% of the teaching workforce in the United States, and 1.7 million of these individuals are teachers and principals. This issue has the potential to significantly enhance this attrition problem, as “all 1.7 million educators in the Baby Boom generation are eligible for retirement in the next ten years” (National Commission on Teaching and

America's Future, 2009). This turnover of candidates is exacerbated by the fact that it continues to be an annual problem, as large proportions of the candidates that are hired do not persist. In addition to this issue, which has held precisely as predicted, is the issue of the candidate shortage.

The Learning Policy Institute (2015) illustrated the sources of current shortages in a report based on an analysis of several national datasets. With high attrition rates, and significantly declining enrollment in teacher education programs, it was projected that the United States could experience shortages of as many as 100,000 teachers by 2017, unless policy initiatives changed teachers' willingness to enter or stay in the profession. This was an accurate estimate, and further illustrates that this is an issue we have seen coming and exploration of immediate solutions are necessary. A recent review of state teacher workforce reports found that 31 states with data reported at least 82,000 positions filled by underqualified teachers, in addition to at least 5,000 unfilled vacancies during the school year. This indicates the national total is about 110,000 individuals teaching without having met certification standards (Darling-Hammond & Carver-Thomas, 2016).

The attrition rates in the United States have steadily been on the rise (Ingersoll 2001; Marvel, Lyter, Peltola, Strizek, & Morton, 2007). As previous research predicted, retirements have increased, but account for a small portion of the total turnover (Ingersoll, 2003). Among public school teacher movers, 59% moved from one public school to another in the same district, 38% moved from one public school district to another public school district, and 3% moved from a public school to a private school between 2011–12 and 2012–13. About 51% of public school teachers who left teaching in 2012–13 reported

that the manageability of their workload was better in their current position than it was during teaching. Additionally, 53% of public school leaders reported that their work conditions were better in their current position than they were in teaching (U.S. Department of Education, National Center for Education Statistics, 2014).

In response to these studies, Ingersoll argues that the biggest challenge facing schools presently is not due to retirement, but turnover fueled by teachers moving and leaving their positions (2001). Attrition rates are highest among inexperienced teachers (Engel & Cook, 2006; Luekens, Lyter, Fox, & Changler, 2004) and are highest in urban schools and schools serving low-income and minority students. This is not surprising, considering these high need schools report having much higher proportions of teachers with fewer than five years of experience.

There is a significant amount of research and differing theories around the factors contributing to teacher attrition, and retention. There are theories, spanning decades, that focus on notions of the individual, such as teacher “burnout” (Shamer & Jackson, 1996, p. 29), while others focus on contextual and cultural factors, such as lack of administrative support and absence of collegiality (Borman & Dowling, 2008; Smith & Ingersoll, 2004). Additional research indicates that the primary reasons that teachers leave include lack of support from administration and colleagues, low job satisfaction, inadequate resources, and workplace conditions (Ingersoll, 2003; Luekens, et al. 2004). These studies identify contributing factors to attrition, but in isolation, one cannot fully understand the context or the evolution of this issue over time, specifically related to relationships with administration, school culture, and the “why” behind the data. I

attempt to address these elisions, and focus on the culture of schools, and how factors of collegiality and support facilitated by school administration affect attrition. I define attrition as a teacher leaving their school or the profession.

Within and throughout the ongoing and current debate is that of administrative support. Lack of support is often listed as a factor in teachers' attrition; specifically, a lack of administrative support, or administration creating a culture that feels competitive and leads to feelings of isolation (Ingersoll, 2001; Harris, Rutledge, Ingle, & Thompson, 2010; Anhorn, 2008). The literature on the issue of attrition shows that teachers must feel supported "from colleagues and principals who encourage and assist them, and in realistic expectations of what they can accomplish" (Schaefer, 2013 p. 262).

Administrative support across the research literature is defined as the degree to which leaders can support the work that teachers do, make it easier for them to navigate the profession, and help them to improve their teaching. It consists of a range of forms, from providing teachers with professional development to protecting them from district office mandates (Hirsch & Emerick, 2007).

Boyd, Grossman, Ing, Lankford, Loeb, and Wyckoff (2011) found, when considering school contextual factors and controls, the administrative factor is the "only one that significantly predicts teacher retention decisions" (p. 304). Rochkind, Ott, Immerwahr, Doble, and Johnson (2007) found that nearly 80% of teachers would prefer to teach in a school where administrators supported them, as opposed to only 20% that would prefer one where significantly higher salaries were offered. Research is needed to identify the specific ways in which beginning and veteran school leaders contribute to the

retention or attrition of beginning teachers. The issues faced today could be attributed to the tensions between the principal and the teacher over the years and the principal's inability to effectively manage the stark divide in their dual role of teacher of teachers as well as supervisor and manager.

Ferlazzo (2015) suggests that the process of teachers leaving hard to staff schools is a result of isolation and exclusion. This happens via fractious decision-making systems, the lack of professional and personal support by school leaders and by policy priorities that do not focus on the cornerstone of a school community, student centered instruction and ongoing professional learning communities. Additionally, there are schools of thought that good teachers leave because of a lack of respect towards the profession in general as well as simply receiving no encouragement to stay. Riggs (2013) observed that teachers leave school buildings due to pervasive disrespect and the inability to influence academic decisions. Researchers now focus on examining the role of principals and other administrators in addressing the critical issue of teacher retention and attrition. Surveyed teachers in the extant body of literature on the national, state, and local levels indicated the leadership of the principal was the critical factor in creating sustainable positive school environments. Rather than leave schools, teachers leave principals (Holmes, 2019). The Reform Support Network (2015), with the sponsorship of the U.S. Department of Education strongly supports using teacher retention efforts as part of the evaluation process for principals and administrators. As principal evaluation systems undergo redesign, the report asserts, guidance from state boards of education should have principals focus on specific retention strategies by including retention as one

of multiple measures of principal effectiveness. The issue of teacher attrition is not a new one; thus, it could demonstrate differing policies and programs over time implemented to address the issue and their effects. If this issue is decades old and continues as a current issue, and a growing one at that, it is essential to understand the history of the issue and the evolution of the problem over time. Through this dissertation I explore the role that administration plays in attrition and retention of teachers as outlined in the current research literature.

Principals manage day to day activities and balance competing priorities to provide high quality education services to all students. They affect school direction through policy interpretation, resource allocation, and community relations. Although many factors in student learning have not been fully explained, leadership is the second most influential school-level factor on student achievement, after teaching quality (Hallinger & Heck, 1998; Leithwood, Louis, Anderson, & Wahlstrom, 2004; Waters, Marzano, & McNulty, 2003).

There are different visions of school leadership. A single leader will assume multiple leadership roles depending on the leadership context. A principal may be considered a traditional manager on certain issues and an adaptive leader on other issues. Principals are asked to be instructional leaders, a role that encourages them to deeply engage with teachers in student learning issues, while also asking them to retain roles, such as the managerial and administrative. The approach to principal leadership is further described in Figure 1. Some states and districts are attempting to redistribute

leadership tasks to allow principals time and focus because of this recognition of multiple roles and responsibilities.



Source. Clifford (2012); Walker (2002)

Figure 1. Approach to principal leadership

Principals' practice can directly influence school conditions, teacher quality and placement, and instructional quality. School conditions include school safety, availability of resources and services, financial management, staff attitudes, direction, and staff

cohesion and trust. School conditions also include the working conditions of teachers, such as the strength of professional communities, availability of adequate instructional time, and other professional supports. In summarizing the research on this topic from 1980–1995, Hallinger and Heck (1998) found that foremost among the ways principals foster school improvement is by shaping school goals, school improvement directions, school improvement systems, school policies and practices, and school culture.

Principals are often also responsible for allocating financial and human resources toward goals, which can influence the type of teaching and learning that occur in a school.

Principals also influence school conditions by interacting with community members and advocating for quality educational programming. Such community relationships help to build support among parents, teachers, students, and other groups for support of teaching and school improvement (Waters et al., 2003). Research also suggests that principals influence teacher working conditions. Positive teacher working conditions include fostering a collegial, trusting, team-based, and supportive school culture; promoting ethical behavior; encouraging data use; and creating strong lines of communication. Ladd (2009) found an association between positive teacher working conditions and student achievement. Similarly, Wahlstrom et al. (2010) found a correlation between schools with high levels of student achievement and high ratings by teachers of instructional climate. Instructional climate refers to “steps that principals take to set a tone or culture in the building that supports continual professional learning” (p. 13). They find that principals that value and successfully apply research-based strategies are more likely to receive high ratings on instructional climate. Some available research

suggests that principals influence teacher working conditions by developing teachers as leaders outside their classroom walls. Effective principals strengthen the professional community, build better working relationships, and keep their staff engaged in continual learning (Wahlstrom et al., 2010; The Wallace Foundation, 2011). Principals also can affect teacher working conditions by targeting resources toward instruction, creating time for instruction and teacher reflection, and engaging teachers in high-quality professional development (Ladd, 2009). While principals influence school conditions, it is important to note that principals' work also is influenced by school conditions. New principals inherit organizational histories and traditions that they must work through and within in order to bring about meaningful change, and fluctuations in organizational conditions can affect principals' leadership styles or the discretion principals have to bring about change (Lambert et al., 2002). Principals in "turnaround schools," for example, likely need to act quickly and convincingly to improve conditions and achievement (Herman et al., 2008).

The results of this study will contribute to the field through examining the extent to which administrative support can impact teacher retention and attrition, thereby contributing to the research literature as well as giving school administration strategies to address the crisis in their schools. Administrative support in the research literature is described as the degree to which leaders can support the work that teachers do, and make it easier for them to navigate the organizational culture as well as their responsibilities in general. Additionally, leaders help teachers to improve their instruction. Teacher satisfaction is a strong predictor of teacher attrition, and the support of administrators is emerging as a particularly important factor in these retention decisions (e.g., Ingersoll,

2001; Hanushek et al., 2004; Boyd et al., 2005). I explore the extent to which administrative support can improve teacher satisfaction and increase the likelihood of retention.

Theoretical Basis for the Study

Using Organizational Culture Theory (Schein 1980, 1987, 1988, 1993, 1999, 2004) to frame the complex issue, I investigate how teachers experience the organizational culture created by building administration. Schein (1999) informally defined organizational culture as “the way we do things around here” (p.15), and formally defined it as “a pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems” (2004, p. 17). Schein (2004) states that “organizational culture is created by shared experience, but it is the leader who initiates this process by imposing his or her beliefs, values, and assumptions at the outset” (p. 225). He states, “...when we examine culture and leadership closely, we see that they are two sides of the same coin; neither can be understood by itself” (2004, p.11). This theory will be used to frame this study through examination of teacher perceptions of whether a supportive culture, defined as a set of values that supports teachers, a sense of responsibility for student learning, and a positive, caring atmosphere (Deal & Peterson, 1999) exists within their school and the impact of this on their retention and attrition decision.

The primary research questions guiding this study were as follows:

1. What are the reasons teachers leave or stay in their school, their school district, or profession?
2. In what ways do principals contribute to teacher decisions to leave or stay in their school, district, and profession?

Through quantitative methods, survey, these questions were explored at an entire district level. Subsequently, through qualitative methods, interview, a more in-depth analysis of initial data was gleaned. Specifically, exploration of the factors contributing to decisions for leaving, moving, or staying in school, district or profession led to a richer understanding of teacher attrition and retention. Additionally, among those contributing factors identified through district-level survey, the role of the building principal was identified.

Chapter Two – Review of the Literature

The field of education has been and continues to be under significant scrutiny for test performance, postsecondary and career preparation, and all this scrutiny seems to fall back onto teachers. Amidst this critical time in education reform, we are facing high attrition rates and an even greater teacher shortage. According to the Learning Policy Institute (2016), 55% of teachers leave the profession during the first five years. According to current National Center for Education Statistics data, of the 2011-12 to 2012-13 public school movers, 59% moved from one school to another in the same district, and 41 % left the school district for another district. According to Goldring, Taie, and Riddles (2014), these rates are 50% higher for teachers in Title I schools, which serve a significant number of low-income students. A report out of Oakland Unified School District SD states that nearly 72% of new teachers left their district within five years of being hired in a data analysis of the 2005-2012 years. The report cited that the high turnover rate was the result of teachers not receiving sufficient support. A report entitled *The Irreplaceable: Understanding the Real Retention Crisis in America's Urban Schools* (Jacob, Vidyarthi, & Carroll, 2012) cites the ultimate consequence of this continued churn, concluding that the “pervasive neglect of the nation’s best teachers is a disgrace that derails school improvement efforts and robs millions of students of a potentially life changing education”(p. 4). Also, the current teacher shortage has resulted

in the employment of many alternatively or emergency certified personnel, and their rates of attrition are more than 80% higher than among traditionally certified teachers. According to the U.S. Department of Education (2014), of the 3,377,900 public school teachers in the 2011-12 school year, 84% persisted at the same school, 8% moved to a different school, and 8% left the profession. These data are informative, but it is much less common to find literature addressing movers between schools within the same district as this is not often considered attrition. Goldring, Taie, and Riddles (2014) one of the few to address this issue, state that among “public school teachers with 1-3 years of experience, 80% stayed in their school, 13% moved to another school, and 7% left teaching in 2012-13”. Among public school teacher movers, “59% moved from one public school to another in the same district, 38% moved from one public school district to another public school district, and 3% moved from a public school to a private school between 2011-12 and 2012-13” (p.3).

This issue situates a great deal of pressure on school leaders due to the detrimental effects, both human and fiscal that high attrition can have, particularly on high-poverty low-achieving schools (Darling-Hammond, 2010; Heck, 2010). It was also found that teacher shortages increased in schools serving high percentages of African American and Hispanic students due to teachers frequently transferring out of these schools, and identified that highly qualified educators tended to gravitate toward higher achieving schools. Additional studies also indicate that schools experience difficulty attracting minority candidates and many have an underrepresentation of qualified teachers, especially at low income and low performing schools (Reese, 2010; Tuttle et al., 2009).

Although at-risk schools are primarily those facing the issue of teacher attrition and shortage, they are not alone.

The Issue

Attrition is a significant problem that schools across the United States face, specifically high need schools spending much needed financial, human, and other resources on recruitment and training efforts, with a large percentage of teachers leaving adding to the critical shortage schools are facing in finding candidates to fill these vacancies. According to the U. S. Department of Education (2016), between 2009 and 2014, upwards of 8% of teachers are leaving every year, the majority of these before retirement age. In addition, data on the 2017-18 school year illustrate that the majority of states are still unable to hire qualified teachers in multiple fields. The U. S. Department of Education reports that the majority of states are experiencing shortages of teachers in mathematics (48 states), special education (47 states), science (44 states), world languages (41 states), career and technical education (33 states), teachers of English learners (33 states), art, music, and dance (29 states), and English (28 states) (Sutcher, Darling-Hammond, & Carver-Thomas, 2016). Research supports that the group I define in this study as Stayers, Movers, or Leavers cite a number of reasons for leaving their school or their district. The most frequently cited reasons in 2012–2013 were dissatisfaction with testing and accountability pressures; lack of administrative support; dissatisfaction with the teaching career, including lack of opportunities for advancement; and dissatisfaction with working conditions. These kinds of dissatisfaction were noted by 75% of those who left the district, Leavers, and 66% of those who left their school to go

to another school, Movers (Carver-Thomas & Darling-Hammond, 2017). Much of the research on attrition and subsequent initiatives focus on the role of teacher and student demographics. Comparatively few studies examine the role of teacher-principal relationships. History, however, suggests that the connections between teachers and principals is complex and may be linked to some of these reasons cited above related to mover and leaver decisions. Given the need to retain high-quality teachers, and the significant influence that administration can have on these decisions, research is needed to understand this relationship, and the ways in which principals can influence retention or attrition of their beginning teachers. In order to fully understand and research this issue, it is also important to understand the full context of the surrounding factors and development of this principal-teacher relationship; including the development and complexity of the roles.

A myriad of factors contribute to teacher retention decisions (Elfers et al., 2006; Ingersoll, 2001; Rosenholtz & Simpson, 1990). Among the most often cited are the lack of collegial and administrative support, teacher preparation, instructional materials, teacher autonomy, and influence over decision-making. Additional literature (Bernhausen & Cunningham, 2001; Parsad et al., 2001) cites unreasonable teaching assignments, lack of professional development opportunities, inability to handle stress, lack of classroom management skills, and inadequate allocation of time as factors contributing to attrition. All of these factors fall into two camps of thought related to explaining reasons for attrition. One camp attributes attrition to individual teacher characteristics and the other camp attributes attrition to factors beyond individual

characteristics and the control of teachers that exert an impact on teachers. However, all of these factors are within the realm of administrative influence. That influence of school administration consists of supporting teachers.

Lack of support is listed as a factor in beginning teachers' attrition; specifically, a lack of administrative support, or a culture that feels competitive and leads to feelings of isolation (Ingersoll, 2001; Harris, et al., 2010, Anhorn, 2008). The literature on the issue of attrition shows that teachers must feel supported "from colleagues and principals who encourage and assist them, and in realistic expectations of what they can accomplish" (Schaefer, 2013 p. 262). Administrative support across the research literature is defined as the degree to which leaders support the work that teachers do, make it easier for them to navigate the profession, and help them to improve their teaching. It consists of a range of forms from providing teachers with professional development to protecting them from district office mandates (Hirsch & Emerick, 2007). Ladd (2011) found that teachers' perceptions of school leadership are more predictive of teachers' intentions to remain in the school or to find alternative jobs than are their perceptions of any other school working condition. Boyd, et al. (2011) found, when considering school contextual factors and controls, the administration factor is the "only one that significantly predicts teacher retention decisions" (p. 304). With regard to these retention decisions, there is a gap in the research literature resulting from significantly less literature regarding the direct influence of school administration and factors affecting teacher migration between schools within a district.

Louis, Leithwood, Wahlstrom, and Anderson (2010) assert that the leadership a principal demonstrates, whether productive or destructive, directly influences the school culture, student achievement, teacher motivation, and teacher attrition. The school leader's style and support for teachers can directly impact the overall culture. The important role of the principal is establishing and sustaining school cultures that are built on trust (Noonan, Walker, & Kutsyruba, 2008). This is where the leadership style of manager as outlined in our history can directly impact teacher attrition. Among teachers who left due to lack of satisfaction, most attribute their turnover to the behavior of their school administration, how assessment and accountability affect teaching, discipline problems, lack of decision-making input and lack of autonomy over their teaching (Ingersoll, 2015). These studies identify contributing factors to attrition and the significant influence that a school administrator can have on teacher attrition but in isolation one cannot fully understand the context or the evolution of teacher relationships with administration.

Attrition rates are highest among inexperienced teachers (Engel & Cook, 2006; Luekens, Lyter, Fox, & Changler, 2004) and are highest in urban schools and schools serving low-income and minority students. This is not surprising considering these high need schools report having much higher proportions of teachers with fewer than five years of experience. In a report published by the New Teacher Center, more than one million of the 3.4 million teachers across the United States move in and out of schools annually, and according to Ingersoll (2016) that averages 24% of teachers within a school each year, causing significant financial drain. According to Haynes (2014), state

expenditures from teacher attrition range from 1 billion to 2 billion dollars annually. Many of these teachers choose to leave schools that serve large numbers of poor, low-performing, and minority students (Boyd, Lankford, Loeb, & Wyckoff, 2008; Hanushek, Kain, & Rivkin, 2004). Only 16% of this attrition at the school level is due to retirement, the other 84% of turnover is due to between school transfers and leaving the profession entirely (Alliance for Excellent Education, 2008). Considering the severity of this issue, there is a wide range of research exploring a variety of factors related to teacher attrition, including teacher demographic characteristics, such as gender, race and age; teacher qualifications, such as training, experience and ability; and school contextual factors, such as average class size, teacher salary, school location, and working conditions. (Borman & Dowling, 2008). Among these factors, school working conditions appear to have some of the strongest and most robust effects (Boyd et al., 2011; Johnson, Kraft, & Papay, 2012; Ladd, 2011). There is a substantial amount of literature on teacher turnover; however, far less has been done to understand how school administration affects the turnover rate.

There have been studies focused on individual characteristics in relation to attrition, such as teacher age and certification (Grissmer & Kirby 1997; Murnane, 1987). For example, one common finding is that “attrition is higher for younger teachers” (Guarino et al., 2006, p. 10). However, other studies tend to focus on the organization of schools or external factors such as salary, working conditions, student behavior, collegiality, and support affect attrition. These particular studies indicate that the primary reasons that teachers leave are those of lack of support from administration,

low job satisfaction, inadequate resources and workplace conditions, and poor student behavior and motivation (Boyd et al. 2011; Ingersoll 2003; Luekens et al. 2004).

The research literature on teacher attrition that focuses on the internal, or individual characteristics of those that choose to leave the profession, looks at teacher characteristics such as certification, age, and other factors, including emotional or mental characteristics (Ingersoll, 2001; Strunk & Robinson, 2006). The concept of professional burnout is defined as a condition of bodily and mental exhaustion creating a negative sense of self-worth (Gold, 1984; Maslach, 1982). Conditions leading to this condition for teachers can range from excessive paperwork and lack of administrative support, to role conflict and unclear expectations (Anhorn, 2008; Schlichte, 2005). Another individual factor is the lack of teacher resilience evidenced by feelings of inability to cope with the daily responsibilities of the position. Although the research does discuss the organizational factors that cause burnout, it situates blame on the individual.

Another theory explaining teacher attrition within this focus on the individual is that today's generation of beginning teachers do not view teaching as a lifelong career (Peske, Liu, Johnson, Kauffman, & Kardos, 2001). This theory suggests a difference in those in the profession today. Borman and Dowling (2008) cite Kirby and Grissmer's (1991) human capital theory and propose a connection between the amount of capital invested in the profession and beginning teacher attrition. This theory suggests that beginning teachers have less social capital invested in teaching and may be more likely to leave to find other employment opportunities that offer a greater or equal salary. Research also focuses on the age, gender, and backgrounds of teachers as factors

contributing to attrition, finding that attrition rates are higher for younger, less experienced teachers (Guarino et al., 2006). Borman and Dowling (2008) identify that women have a higher attrition rate than men and Gurarino et al. (2006) found that minority teachers have lower attrition rates. Another aspect of focus is that of ability. Murname and Olson (1990), for example, found teachers with higher academic ability were more likely to leave the profession.

There is also support for the belief that attrition is due to the lack of teacher preparation. The National Center for Education Statistics found that 49% of uncertified entrants left within five years (Henke et al., 2000). New teachers with more training and more student teaching, leave at half the rate of those who have less training and student teaching (Darling-Hammond, 2003). Also, studies show that beginning teachers who feel better prepared for teaching are much more likely to stay in teaching than those who feel poorly prepared (Darling-Hammond, Chung, & Frelow, 2002; NCTAF, 2003). There is a need for consistency of preparation and school leaders need to be prepared to address this individual diversity in their teachers and provide adequate support.

Research also supports that external factors, such as working conditions and school climate affect teacher attrition rates (Borman & Dowling, 2008; Boyd et al, 2011; Darling- Hammond, 2003; Ladd, 2011; Loeb, Darling-Hammond, & Luczak, 2009). These external conditions have included factors such as administrative support and communication, teacher empowerment and influence over school policy, opportunities for teacher professional development and advancement, level of collaboration, use of their time, student behavior, facilities, school resources, school culture, and community

support (Boyd et al, 2011; Hirsch, Emerick, Church, & Fuller, 2007; Johnson et al., 2012; Ladd, 2011).

Research into school climate has shown a link between school climate and teacher retention and attrition decisions (Angelle, 2006). A positive school climate is imperative for teacher retention, and it is the school principal that communicates the school core values and teachers that reinforce such values in the school community (Deal & Peterson, 2016). The research supports that culture and climate influence the emotional and psychological atmosphere of a school (Tschannen-Moran, 2014) and the emotional and psychological well-being of teachers leads to their decisions of whether to stay or leave their current school.

According to the National Center for Education Statistics, teachers reported that they spend an average of 52.2 hours each week preparing and engaging in teaching in some manner (2014). School environment and working conditions are important factors in teachers' overall job satisfaction, and their subsequent retention decisions. Many schools and school districts have acknowledged the significance of satisfactory working conditions and overall culture and climate in affecting teacher retention. These school districts also recognize that principals have the ability to impact these factors directly. Teachers value a supportive environment where they are not isolated from but can collaborate with their peers (Darling Hammond, 2013). A building administrator can contribute to this satisfaction by making it possible for teachers to plan with colleagues. A study by Johnson, Kraft, and Papay (2012) using the Massachusetts Teaching, Learning and Leading Survey found that teachers who teach in these favorable work

environments report that they are more satisfied and less likely to transfer or to leave the profession than their peers in schools with less favorable conditions, even after controlling for student demographics and other school and teacher characteristics. Educational reform efforts have expanded teacher workload, demanding teachers take on leadership tasks aimed at increasing school quality and student performance. This adjustment of teacher roles and workload has led researchers to credit this shift with contributing to attrition. Research has found that this workload increase has led to expanded work days of 8.5–11.5 hours and that these schools experienced higher attrition rates (Bartlett, 2004). These teachers believe that “non-teaching responsibilities put pressure on their ability to plan and teach their students as well as on their personal lives” (Schaefer, 2013 p. 263). The literature on the issue of attrition shows that teachers must feel supported and be acknowledged for the work they do, “from colleagues and principals who encourage and assist them” (Schaefer, 2013 p. 262).

There is also research supporting that inadequate facilities and lack of teaching materials are associated with high teacher turnover rates (Wei, Patel, & Young, 2014). When teachers are not provided with the facilities and resources needed to perform their daily instruction this leads to difficulty in achieving their personal and professional goals and leaves them feeling unsupported in their work. Lack of support is often listed as a factor in beginning teachers’ attrition (Flores & Day, 2006; Guarino et al., 2006). According to Johnson et al. (2012), teachers’ retention and attrition decisions can be explained mostly by their overall satisfaction with school working conditions, to include factors of collegial relationships, school leadership, and school culture. A number of

studies have found that well designed mentoring programs improve retention rates for new teachers. Successful mentor programs provide teachers with experienced mentors who have sufficient release time to provide targeted and personalized support. There have been many initiatives by state mentor programs with the intention of ending teacher shortages, creating an improved and more stable teaching force, and producing gains in student achievement (Wilson, Darling-Hammond, & Berry, 2001). The issue with many of these programs, especially in high need schools, is that the number of inexperienced teachers significantly outweighs the number of experienced or veteran teachers to serve as mentors. This results in teachers mentoring several new teachers simultaneously, detracting from the support that they can provide.

Boyd et al., (2011) found, when considering school contextual factors and controls, the administration factor is the “only one that significantly predicts teacher retention decisions” (p. 304). Rochkind, Ott, Immerwahr, Doble, and Johnson (2007) found that nearly 80% of teachers would prefer to teach in a school where administrators supported them, as opposed to only 20% that would prefer one where significantly higher salaries were offered.

Research is needed to identify the specific ways in which school leaders contribute to the retention or attrition of beginning teachers. The issues faced today could be attributed to the tensions between the principal and the teacher over the years and the principal’s inability to effectively manage the stark divide in their dual role of teacher of teachers as well as supervisor and manager. Included below is a figure outlining the factors related to teacher retention and attrition as outlined in the previous

research literature – the figure is organized to show how factors; both personal and organizational, lead into push or pull factors that can ultimately influence an outcome in attrition. These factors and their impact on teacher retention and attrition as it relates to leadership are outlined in Figure 2.

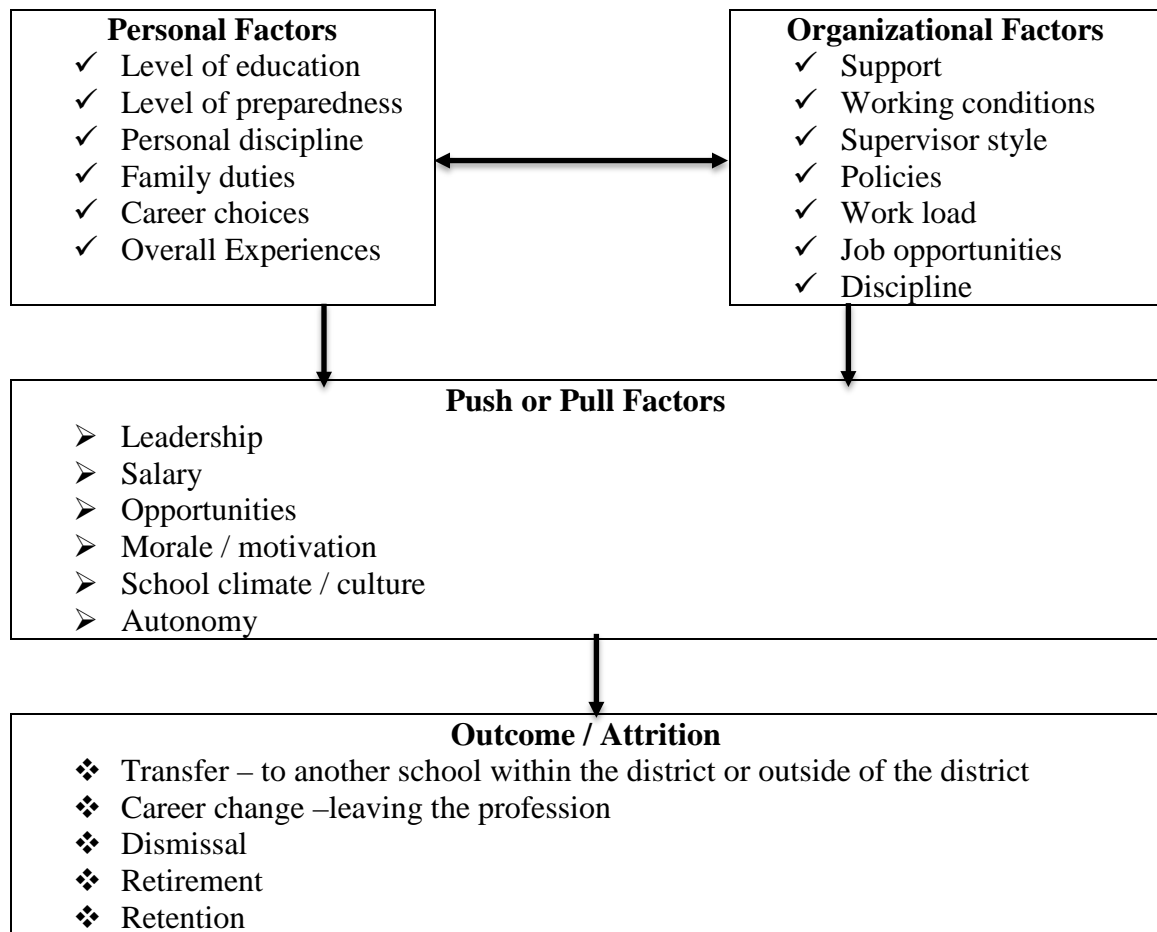


Figure 2. Teacher attrition factors

Principal Role Development

In addition to examining the current literature on teacher attrition it is important to also acknowledge the development of the principal role and the impact this may have on

relationships with teachers. Through exploration of these historic factors and the extent to which they continue today, we can further understand possible contributing factors to teacher retention and attrition decisions. The development of the role of a principal over time in and of itself could be a contributing factor to the blatant divide that we see today between the role of a teacher and principal. Initially, the role of principal was more of a head teacher in that the principals still considered themselves teachers and even as this role initially progressed it was still as teachers of teachers.

As schooling expanded in the early 1800s, the position of “principal teacher” was created. This individual was most often a male, and was responsible for only some clerical and administrative obligations in order to keep the school running smoothly and as directed. They had responsibilities that consisted of, for example, class assignments, discipline, and securing the building. These duties brought the principal teacher a degree of authority, as did his role in communicating and answering to the district superintendent, who tended to govern local schools from afar (Brown, 2005). As time went on this principal teacher was no longer responsible for teaching duties and evolved into more of a leader that subsequently further evolved into primarily a manager, administrator, supervisor, and a politician (Cuban, 1988; Pierce, 1935; Rousmaniere, 2007). As the bureaucracy of schooling increased, the role of principal became more like a manager, similar to that of building level management of a factory, and forever changed the relationship and power structure or managerial hierarchy between principal and teacher. This very structure is one we continuously discuss presently as one negatively affecting teacher satisfaction and subsequent retention or attrition decisions. The

principalship was from its inception, as stated above, one of management and authority, not of support.

In the early 1900s, the principal's power grew as did his authority and the recognition of his importance. Over the next few decades, this power increased with the continued growth of the bureaucracy of schools and districts and as more responsibility and authority was allocated to the principal. As a result of state funding for schools and districts, the head teachers or principal teacher's role became entirely to supervise and manage the teachers within the school. By the mid-1900s only 17% of principals reported that they were "teaching principals" and by the late 1900s, only 1% described their titles this way (Button, 1996). This is indicative of the overall feelings of principals not wanting to be associated with teaching, as though teaching was a lower status position. This feeling of principals, as well as the outside perception of authority, power, and status or importance, stand to divide teachers and administrators further.

These structures containing the role of a principal and affecting the manner in which they interact with their staff include the process of evaluation. Principals were no longer head teachers. Instead, they became evaluators and supervisors. This dynamic of the principal as supervisor, manager, and evaluator changed the relationship dynamic and created tensions between the levels of the hierarchy between the two roles. Similar to the development of the role briefly described above, the development of principal as evaluator developed accordingly and reflected the federal, state and district office mandates of each time period.

As the role of a principal grew and he was clearly denoted as no longer a teacher but a manager, the role of a teacher was not only demoted by this very appointment and role separation but by the diminishing voice and authority that teachers held in their classrooms, schools, districts, and communities. At the same time that the rise of the principalship was taking place, teachers' perceptions of their situation mirrors those of today and many of the exact contributing factors to their attrition such as lack of support, guidance, and feelings of isolation. "Power relations, social relations, the delivery of educational programs, and the texture of school culture immediately changed with the appointment of a principal" (Rousmaniere, 2009, p. 22). It is clear that a direct result of the restructuring and development of the principal role was the upheaval of the entire dynamic and culture of the school from teachers being the supervisor of students to the principal being the supervisor of the teachers.

This divide over time between administrators identifying themselves as educators and then increasingly as supervisors or managers, and acting accordingly, contributes to the present-day hierarchy within schools and the severely unequal district of power and authority. These supervisory responsibilities helped raise the prestige of the role of principal, not simply by putting the teachers in the charge of the principal, but by drawing the clear line between the principal and teacher. These developments highlight how one position rises in status and authority while the other becomes increasingly less supported and more isolated. These issues of lack of support, autonomy and authority, respect and relations, are all research supported contributing factors to teacher attrition today.

Role Complexity

Although there is not an extensive amount of research available on the early work of principals and exactly how they interacted with their staff, unanswered questions seem to circulate the literature on the principalship with regard to these staff relationships as well as the relationship to their district and government offices. Were principals able to handle and manage the demands placed on them as bureaucrats, instructional mentors, building managers, and community leaders, for example, or did they tend to emphasize one role to the detriment of others? (Rousmaniere, 2007; 2009). The research literature does indicate that principals have always been expected to handle numerous, often contradictory responsibilities; however, it has not remained completely fixed. The responsibilities and expectations of the principal over time became more regulated, and according to Tyack and Cuban (1995), the institutional and personal power of principals has come from various sources throughout the years. These changes not only affected who had the role of principal, but their relationships with “faculty, students, parents, community members, and supervisors. It is a role that is multifaceted, complex, and at times self-contradictory, but it has remained remarkably stable over the decades” (p. 85).

The role of the principal is complex and has been marked by a continuous struggle between identifying as a teacher leader or as a manager. As the challenges of balancing these managerial tasks increase, so does the divide between the teacher’s work in the classroom and the principal’s work in the office, to such an extent that they are no longer meaningfully connected. The principal position was established to essentially maintain order and keep the system running according to the criteria and expectation of

the federal, state, and district level leadership. In direct conflict with this is the present support that teachers are in need of from their principal, including protecting them from district office mandates (Hirsch & Emerick, 2007), and therefore the principal role is one that is ultimately multiple, with those differing aspects in conflict with the one another. The school principal must juggle roles of supervision and management of instruction, bureaucratic, fiduciary, and political duties; and that these roles are frequently in conflict. In order to retain educators and provide the support needed as a teacher leader, the principal must identify as such and support the needs of staff and students; however, they must also ensure that all federal, state and district mandates are addressed and evaluate their teachers accordingly.

This struggle has not changed over time, although contexts may have developed or changed over the years. The “responsibilities, status, and main role of the principal has remained essentially the same: to implement state education policy to the school and to buffer and maintain the stability of the school culture” (Wolcott, 2003, p. 321). In part due to the quest to maintain the stability of culture, many school districts follow the same practices and mandates when it pertains to employing principals and teacher mobility. For example, typically, districts allow administrators at least three years to demonstrate effectiveness in bringing change to a school (Clark, Martorell, & Rockoff, 2009). However, full demonstration of school improvement does not become established until approximately five years after implementation. School districts are required to follow various mandates and practices, even in light of the fact that many districts have less experienced principals in hard-to-staff schools.

The principal's primary purpose is to manage their school but to do so within the realm of guidelines from the district office and state and federal governments. Their role has always been complex, in that they must be the "buffer" between teachers and these outside forces of authority. Considering the present literature on teacher retention and attrition and their desire for and lack of support from both the administration and their peers speaks to the culture of schools; however, over time the purpose of the principal has not been one of creating that supportive culture but to manage daily activities and supervise so that all guidelines are being met. The role of principal evolved from having a focus on teaching to focusing on various accountability measures such as financial structures, standards, and policies according to particular criteria to be executed in a particular manner. Their schools should stand out as exemplary in their communities and states, but should simultaneously be sure not to make waves. They should support their teachers and address these retention issues, but their role also needs to remain as the job description dictates. This places the principal in a difficult position, but also one poised to enact meaningful change.

The very existence of this role has a hand in maintaining these historic structures that confine and strain the relationships between teacher and principal; however, the power and authority granted to this local leadership position leaves these individuals with an opportunity to address the root cause of a significant issue. Principals do not always agree with their superiors, and by letting the past inform the present and challenging norms "the principal could be a pivotal figure in shaping school response to larger political and policy directives" (Thompson, 2008, p. 94).

Conclusion

The present-day issue of teacher attrition is not a new problem. Along with the extensive research into the contributing factors to this attrition, is a significant amount of research literature identifying lack of support as a major factor. The development of the building principal is one that began as a support, a teacher leader. Even as the position grew in authority it was still a supportive role, and one in which a peer was designated as a leader to teach teachers; however, this did not last long as the bureaucracy of schooling increased so did the authority of the lead teacher into that of what we see today as the principal. This position was created to manage and keep things as they should be; to oversee, evaluate, and supervise.

Although part of the position was and is to support teachers in being as effective as possible, the complexity of the role makes this a challenge as it is not the only or main purpose. The clear hierarchy delimiting the role of the principal and the teachers as well as between the principal and government created a position of dual roles where competing interests play out. However, the bottom line was and is that they are ultimately responsible for the compliance of their teachers with state and federal mandates and therefore enforcing the rules and maintaining the existing structures. Also, regardless of the intended purpose at the time, from the start, the institution of the principal as building administration also instituted the bureaucracy and hierarchy that still exist today. According to Rousmaniere (1997), the institution of the role of the principal in the schools is why the “organizational forms, structures, rules, and practices that govern instruction remained stable over multiple generations of reform. The maintenance

of such structures has been one of the defining roles of the principal over time” (p.4). These initial structures remain intact as the complexities of schools increase in this era of accountability and in response to changing policies. This situates a great deal of responsibility on the school principal to manage, and as expectations on schools increase, so do the pressure and expectations of the school principal. Markow & Lee (2013) identify that 69% of principals reported their job responsibilities were different than those five years prior and 75% reported that they felt their jobs were too complex. In addition, according to the 2012-13 principal staffing survey from the US Department of Education, over 20 percent of principals left their schools and over 70 percent of principals have less than five years at their current schools. In 2014, a School Leaders Network report found half of new principals leave by their third year. In 2012, RAND researchers found that when principals leave, the school underperforms the next year.

Therefore, it stands to reason that the relationships today and the structures that surround and shape these relationships between teacher and administrator are strained from both sides and the ways in which principals can support teachers. Throughout history, principals have “acted as both part of and in response to existing structures and systems, and as long as those remain fundamentally the same, so, too, will the work of the American school principal” (Rousmaniere 2007, p. 19). If one is to address this lack of administrative support within schools, it is necessary to recognize the inception of these tensions and begin to address the structures that continue the cycle.

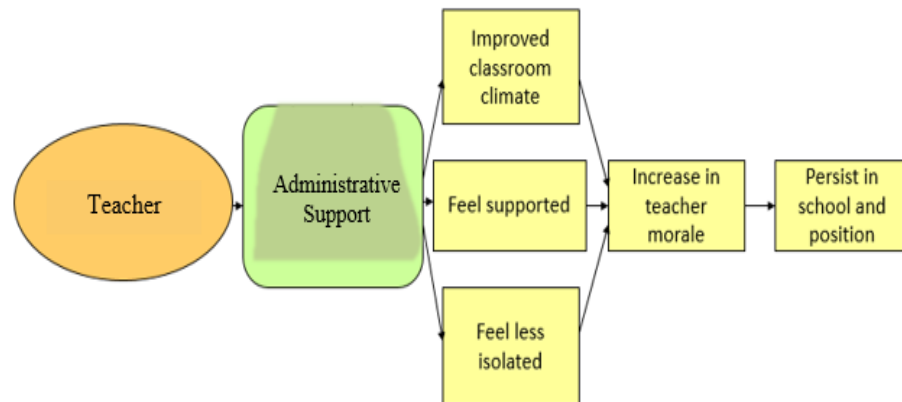


Figure 3. Concept map of administrative support and teacher retention

Administrators and policymakers alike could address the issue of teacher attrition; changing the current hierarchical structure that places such a strong divide between principal and teacher. This could mean that principals may lose some of their perceived authority, but through this, a more collaborative culture much like that of the early head teacher days and community school days could work to retain teachers.

Regardless of the intervention, a more thorough understanding of this issue and its development over time, as well as the contributing factors to the core issue, is needed by not only scholars but practitioners if we are ever truly to address this issue. I contend that through addressing the issue through school leadership, we can then and only then disrupt the current structure in order to support and retain our teachers fully.

Chapter Three – Methodology and Procedures

This chapter addresses the research design and discusses specific features of the study, to include the research participants, methodology including; the data gathering process, data analysis, and reporting procedures. The main purpose of this investigation was to determine whether and what relationships exist among administrative support and teacher attrition or retention.

This study used a mixed methods approach, specifically the Sequential Explanatory Design (Ivankova, Creswell, & Stick, 2006) that combines survey data and interviews, through initial data collection of district-wide survey and subsequent follow up interviews with survey participants. This design was implemented in a U.S. diverse school district with high administrative and teacher turnover and mobility, and examined teachers' perceptions of the extent to which school administration affects retention decisions. This method was selected in order to ultimately answer; in what ways do the qualitative data help explain the quantitative results? Survey data related to general information and perceptions of support and culture were collected from all full-time teachers in the 2018-2019 academic year via an online survey platform and distributed via district email for authentication and security. Themes extracted from survey responses were utilized to cross check interview questions for relevance and importance. Interview candidates were purposefully selected from the participating cohort of teachers,

based on the criteria of a full-time teacher, in the 2018-2019 academic year, having survey completion with agreement to follow-up interview, purposefully selected to be a representative sampling of varying school and experience levels as well as professional intentions for the following school year.

Through this mixed methods study, I focused on the perceptions of teachers who have left the profession, those who left their school district for another, as well as those who left their school for another school within in the same district, as well as those who stayed within the same school and in the same district. Through the lens of the impact of administrative support, I then analyzed the responses to the following questions that guided the study.

Research Questions

- What are the reasons teachers leave or stay in their school, their school district, or profession?
- In what ways do principals contribute to teacher decisions to leave or stay in their school, district, and profession?

Research Design

Methodologist John Creswell suggested a systematic framework for approaching mixed methods research. His framework involves four decisions to consider and subsequent planning strategies. These were utilized in the planning of this study. The Four Decisions for Mixed Method Designs (Creswell, 2003):

1. What is the sequence of implementation of data collection?
2. What method has priority for data collection and analysis?
3. What does the integration stage of finding

involve? 4. Will a theoretical perspective be used? This study utilized an exploratory sequential design based on mixed-methods design classifications (Creswell, Plano Clark, Guttman, & Hanson, 2003). There was a collection and analysis of quantitative data followed by a collection and analysis of qualitative data. The survey responses were coded and analyzed and those data were utilized in the revision of structured interview questions to ensure alignment between questions and participant responses. The qualitative results were used to further investigate and assist in explaining and interpreting the quantitative findings.

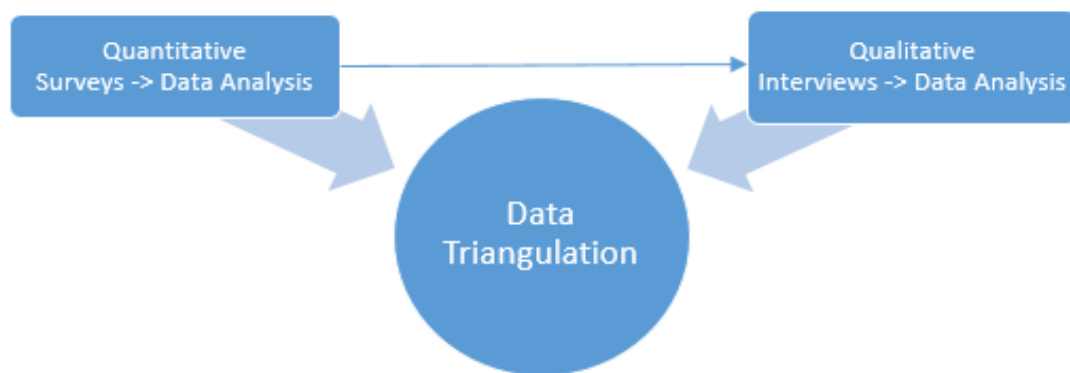


Figure 4. Flowchart of explanatory sequential mixed-methods study design

When choosing this research method, I focused on whether the design fit my research questions. Choosing an appropriate mixed-methods design requires the consideration of three issues: priority, implementation, and integration (Creswell et al., 2003). Priority refers to what specific approach, quantitative or the qualitative, is given more emphasis. In this case, priority was qualitative as it is given more emphasis to

understand more deeply the quantitative findings. The implementation design determined the sequence of data collection. In this case, the quantitative data collection and analysis were followed by qualitative data collection and analysis, due to the desire to understand more deeply the data collected via survey. This method allowed a broad range and high number of participants to be included in the survey, and interviews of a representative sampling but smaller number of teachers to more deeply explore the reasons behind survey responses. The survey and interview data collection and analysis individually were then followed by additional analysis, integrating the qualitative and quantitative analyses. Integration occurs when researchers strive to mix or connect the data after the data collection in the research process. In this case, not only were data utilized to connect the data but the quantitative survey data were utilized to fully develop the qualitative interview questions to ensure survey respondent and interview participant responses were fully understood. For the exploratory feature, the primary purpose (priority) of the study was to explore the relationship between teacher and administrator. As for the sequential feature (implementation), it is a multilayered study in which quantitative data were collected and analyzed first and then quantified into numeric codes (integration). While the discussion of the study was centered on the possible constraints that caused a feeling of disconnect between teacher and administrator, the exploration of the issues was the priority. The use of quantitative data in the study was consistent with the sequential exploratory design, in which the qualitative component assists in the interpretation of quantitative findings (Creswell et al., 2003). These procedures are

consistent with the explanatory sequential design, with qualitative taking the primary role in the mixed methods design.

Participants

The participants in the study consisted of all the teachers in one school district. These individuals' level of service ranged from elementary (grades preK-4), middle (grades 5-8) to high school (grades 9-12) levels, with varying years of teaching experience (1-3, 4-10, 11-19, 20+ years).

Data were collected in a diverse urban school district, with approximately 600 teachers, in the Mid-Atlantic region. This particular school district faces a challenge in meeting the diverse needs of students and in retaining teachers and administrators. During the time this study was conducted within the district, 49% of students were English Language Learners, with 88% Limited English Proficient (LEP) at kindergarten enrollment; 20% Students with Disabilities; and 62% of the student population is identified as Economically Disadvantaged. Over a three-year span prior to and throughout the time the study was conducted, this district has seen a 56% attrition rate for building principals. Current principals (68%) have less than three years of experience and 78% are new to their school within that same time frame. All teachers within this sample district were included in the survey.

Measures

Development and process of the survey and interview instrument

The survey instrument; developed by myself, but with intentional alignment to factors identified in the previous research literature, contained closed demographic

questions as well as scale exploratory questions with regard to the respondents' persistence or attrition decisions while employed within the study site school district. This questionnaire covered the respondents' background (years of experience, degrees, school level, etc.) and addressed factors that influence or influenced their decisions of persistence or attrition within the teaching profession and/or their current school. Prior to administering the survey to the district; as a pilot, the survey was reviewed by 3 teachers to check for readability and feedback from teacher perspective. After survey results were analyzed; interview questions were reviewed to ensure relevance to survey data. The interview, a qualitative approach using face- to-face, or by telephone questioning, if necessary, was conducted to explore further the reasons teachers leave the profession and/or their school or school district, or choose to stay. The primary focus of the qualitative interviews of teachers was to explore:

- a more in depth understanding of the factors contributing to decisions for leaving, moving, or staying in school, district or profession.
- of the contributing factors; identified through District -level survey, the role that the building principal has in those factors.

Trustworthiness

Scholars from the positivistic paradigm have questioned the trustworthiness of qualitative research because they thought the concepts of validity and reliability could not be addressed in the same way in naturalistic work. Guba (1981) proposed criteria that should be examined by qualitative researchers in pursuit of a trustworthy study: a) credibility, b) transferability, c) dependability, and d) conformability. These four criteria

can find their correspondents in quantitative studies; for example, credibility parallels internal validity in a quantitative study.

Several strategies were used to ensure the trustworthiness of the study. Member checking was employed in order to ensure that my transcription of participant responses was accurate. During the coding process, I continued to look for outliers that called my analysis into question and then used them to guide my further analysis. The process of comparing and analyzing the outliers also required me to keep reflecting on my data, which supported the transferability of my study. In addition, reviewing the relevant literature and artifacts helped to limit personal bias while examining the data.

Triangulation was used to ensure the trustworthiness of the study. Broadly defined by Denzin (1978, p. 291) as “the combination of methodologies in the study of the same phenomenon,” triangulation refers to the influx of research methods used to ensure the credibility of data in a study. In this present study, both quantitative methods and qualitative methods were used and the results of the analyses compared and triangulated.

Ethics of the Researcher

To make my study trustworthy and meaningful, I abided by all the conventions of scientific research, including examining myself as an ethical researcher. Before this doctoral dissertation, I had been conducting research, strictly following the research regulations at George Mason University. I first completed the CITI training course, then I went through an Institutional Review Board (IRB) application, which protects human subjects from being harmed or threatened (Appendix K).

Procedures

The methodology that was used to achieve essential findings was two-fold; 1. Survey teachers in the identified school district and 2. Interview teachers from specific school levels and years of experience who made selected persistence/attrition decisions. The survey; open for three weeks in April of 2019 was emailed to five hundred and seventy teachers and three hundred of those recipients provided responses, 55%. No commonalities or discrepancies were explored between the non-respondent's data in any categories. I first collected and analyzed quantitative data in the form of survey responses. With those results I identified specific results that needed additional explanation. From there, I reexamined my qualitative study; an interview initially based on previous attrition research literature identified factors, then revised based on what was learned from the quantitative results. Next, I collected and analyzed the qualitative data. Finally, I interpreted the combined results. Figure 5 describes the procedural steps in detail.

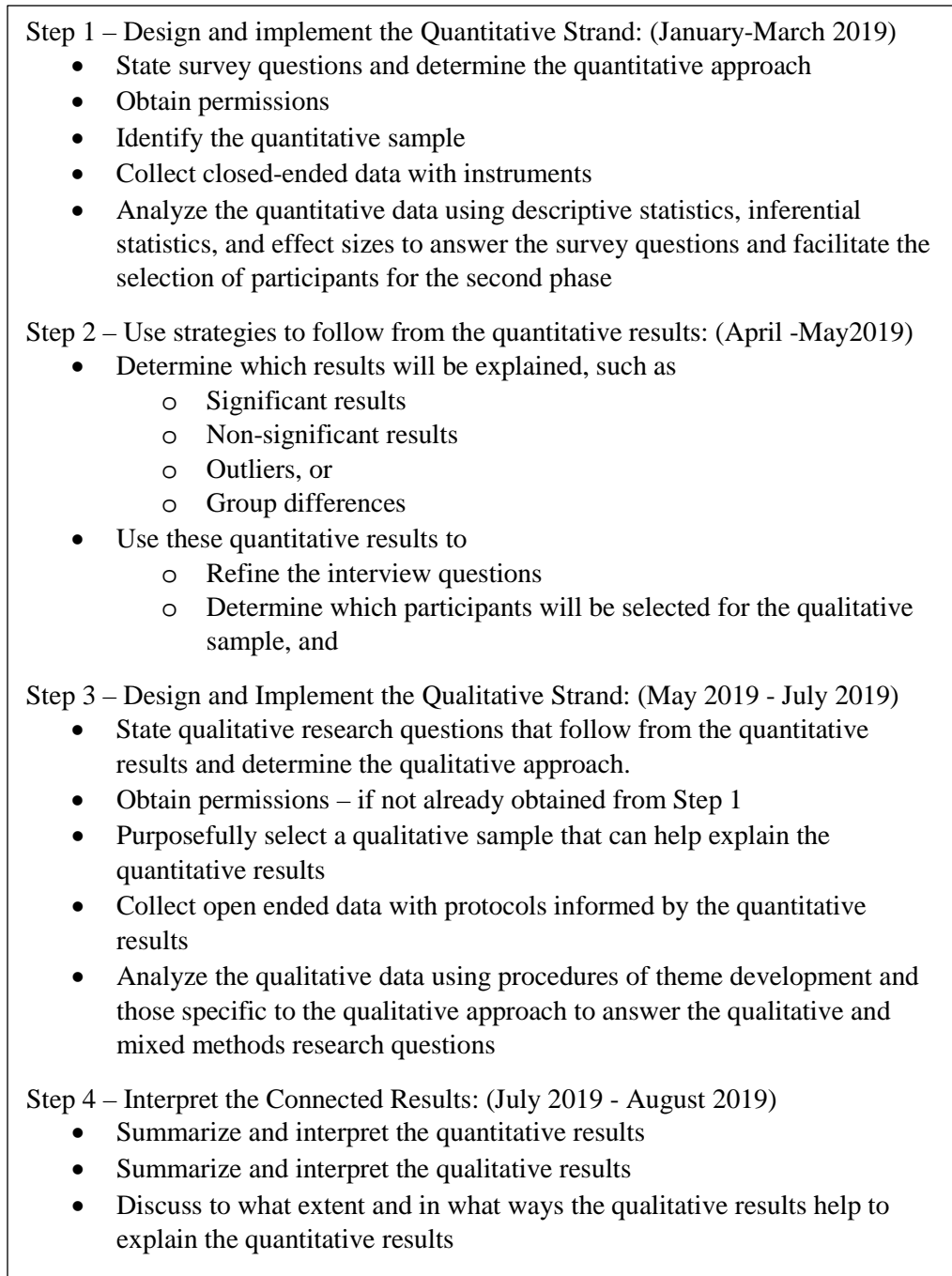


Figure 5. Procedural steps followed with timeline

Survey instrument. A web-based survey application; powered by Google Forms, was utilized to deliver the survey instrument online (Appendix C). To ensure the content validity of this survey, I had three current educators review and provide feedback. The survey was revised and corrected. In addition, and to further ensure instrument validity a Cronbach's alpha was utilized through Microsoft Excel Data Analysis tools – utilizing ANOVA: Two-Factor without Replication – and the equation $\{=1-(\text{Error/Rows})\}$. According to George and Mallery (2003), a Cronbach's alpha of 0.7 is considered to be acceptable and indicates good internal consistency of the items in the scale. The coefficients of the instrument were greater than 0.7, so it was determined that the survey instrument was reliable.

Table 1.

Reliability Statistics: Cronbach's Alpha for Survey Instrument

Question Focus	Cronbach's Alpha	Number of Items
Organizational Factors	0.930015	23
Principal Specific Factors	0.902486	9

The survey was comprised of 41 questions. The questions were broken down as follows: nine demographic questions, twenty-three organizational factors questions, and nine principal specific factors questions. The survey beyond the internal factors / demographics questions utilized a five-point scale (from 1 = not at all important to 5 = extremely important) to allow the researcher to better understand the respondents'

attributions of importance. The higher the mean, the more the participants agreed with each of the statements. Conversely, the lower the mean, the more the participants disagreed with each of the statements. According to Weijters et al. (2010), answering questions becomes less problematic if the researcher uses scales with more response categories because it allows the respondent the opportunity to express their feelings to a certain degree. Following IRB and district approval, this survey was distributed via email to five hundred and seventy current teachers. Survey questions were based on research literature surrounding factors previously identified to be contributing factors to attrition decisions as well as demographic data. Once surveys were completed (response rate of 52.6%), I began the process of compiling responses and identifying common themes to better inform the interview questions.

Interview instrument. Interview participants were purposefully selected to include a best fit minimum of 4 elementary, 4 middle, and 4 high school teachers with at least one from each group of stayers, movers and leavers. See Figure 6 for a breakdown of the selection process.

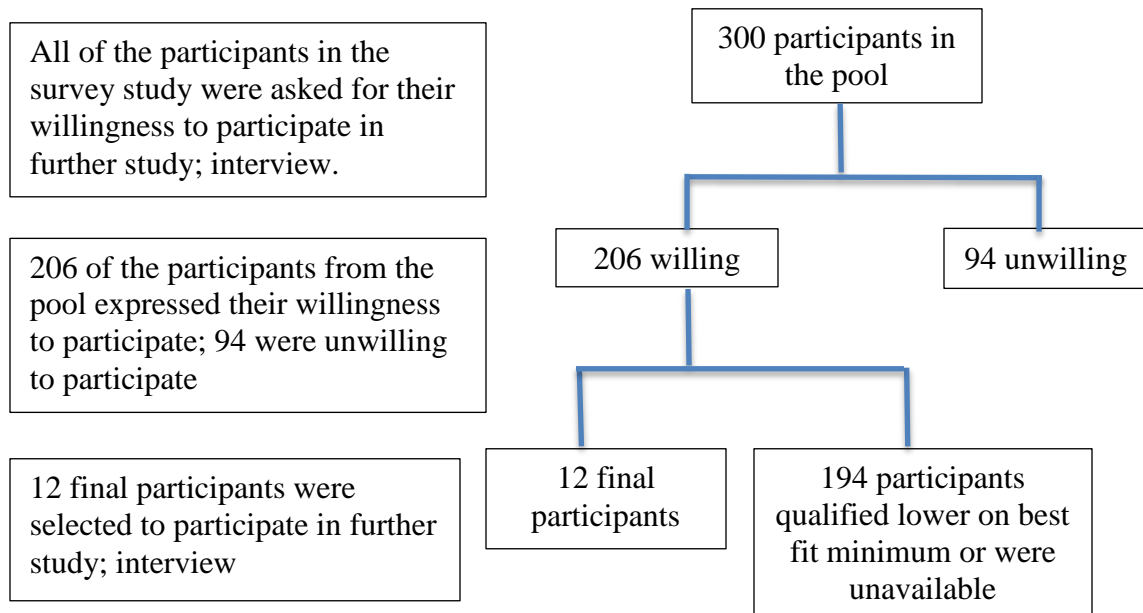


Figure 6. Interview selection process of participants from the survey

In addition to the best fit minimum requirement, I also strived to identify participants from varied experience levels. Telephone and face to face interviews were conducted with the purposefully selected participants agreeing to participate. Interviews were conducted in a mutually agreed upon location and began with again reviewing the informed consent document and interview structures and procedural safeguards. The interview was recorded and transcribed, questions were related to previous retention literature and factors related to retention and attrition with focus on the role of the building principal and aligned with survey response data.

Questions were selected with regard to their alignment with previous research literature (Watt & Richardson, 2008; Darling-Hammond, 2003; Ingersoll, 2001; Smith & Ingersoll, 2004; Loeb, Darling-Hammond, & Luczak, 2005) on teacher perceptions of

factors contributing to retention or attrition and they were organized accordingly not only in the interview but in the matrix. In addition, they were more fully developed and provided edits as the data were analyzed from the surveys so as to ensure that they were in alignment with participant responses. These questions helped to answer these two exploratory focuses: A more in depth understanding of the factors contributing to decisions for leaving, moving, or staying in school, district or profession. Of the contributing factors; identified through district-level survey, the role of the building principal within those factors and subsequent decisions.

Data Analysis

I utilized survey data from all teachers on their perceptions of various factors, including administrative support, and interview data from the selected cohort participants, on the factors as well as ways in which their administration contributed to their retention/attrition decisions. Following data collection, systematic analysis of the survey and interview data provided insight into the effect of administration on building the culture and the reasons teachers leave or stay in their school, district, or profession as well as the ways in which principals contribute to these decisions of retention and attrition. The survey data were analyzed using the computer program software, Microsoft Excel – Data Analysis add on, and pivot tables. The following tests were conducted to determine if there is a relationship between teacher retention rates and factors within a school: descriptive statistics – used to describe the basic features of each sample in the study which provided simple summaries about the sample and what it measured; specifically, the measure of central tendency (the mean of the data set), and multiple

regression analysis, used to predict teachers' intentions according to their responses related to attrition. The researcher used the process of thematic analysis and categorical coding to analyze the interview (qualitative) data. Themes emerged and were then subsequently compared between the qualitative findings and quantitative data to identify commonalities or discrepancies between the findings.

Table 2 below describes the analysis from the study. It shows the entire data set, both quantitative and qualitative data collected and analyzed.

Table 2.

Data Collection and Analysis

Data Type	Data Source	Collection	Analysis
Quantitative	Survey	300 responses	<ul style="list-style-type: none"> • Gathered data from Google Sheets and transferred to a Microsoft Excel workbook • Coded data • Used Microsoft Excel Pivot Tables and Data Analysis for descriptive statistics • Summarized and interpreted the quantitative results
Qualitative	Interview	Purposeful Sampling	12 selected out of 206 willing
		20 hours; 1200 minutes in total	<ul style="list-style-type: none"> • Gathered transcript data from Google Docs • Coded data • Conducted analysis and formed themes • Summarized and interpreted the qualitative results

Limitations

As the purpose of the study was to identify reasons for teacher attrition and possible predictors of attrition, there were limitations to the study that will need to be considered. The possible limitations of this study include:

1. The responses were limited to those who could be located and who returned the survey. Email reminders were sent out to participants who had not completed the survey each week until the survey closed; 3 reminders total. Non-respondents or respondents who did not completely fill out the survey are a limitation of any data collection relying on voluntary responses.
2. As this was a self-reporting survey, the validity of the responses were based on the assumption that respondents answered honestly. This is always a limitation of a survey relying on self-report.

In addition, data were only collected once, and within a limited time-frame. The study was limited because it only focused on a single school district which the researcher believed to be a representative example of neighboring districts and not greatly differing from other districts. Percentages were gathered to substantiate this belief and those data will appear in the following chapter.

To help account for researcher bias; for all participants, I began by introducing myself and introducing them to my study, as well as reiterating the confidentiality of their responses both within their district and within the study. I then transitioned to an explanation of what this project consists as well as its intended use and contribution to both practitioner and scholar. I explained that long-term I had hoped to identify the retention and attrition decisions of individuals at the district level as well as the contributing factors to their attrition through mixed methods study, in order to provide additional insight for school administrators, district administrators and policy makers. I also shared and reviewed the consent form (Appendix A) with all participants, included

in the recruitment email they initially received (Appendix B), as well as a copy of the interview questions and provided explanation (Appendix C). In addition, I included all of this information for their review at a later time should they need to or like to contact me further, and put their mind at ease when reviewing mentally what was discussed. I believed that this addition allowed participants to feel more comfortable and speak more freely.

Lastly, researcher bias needs to be clarified. In order to ensure that the researcher's position and any biases or assumptions that may impact the inquiry are understood it is necessary to comment on past experiences, or any other factors that have shaped the interpretation and approach to the study. I, as the researcher, have been involved in the field of education for over fifteen years and in that time have had varied experiences within the field. Over this time, I have witnessed change for all those within education without additional supports. I have seen retention of both teacher and administrator become an issue and now a shortage of candidates to fill those positions. These experiences are what led me to this study and what make me committed to contributing honestly to the field, but also present an experiential bias which is a limitation to this study. It is also a limitation that my role in the field outside student researcher is that of school principal. It is possible that my role could impact participant responses or my own interpretation of data. As such, it was imperative that I be explicit and clear in the purpose of this research was to understand and to be clear when reviewing and discussing the consent, especially that there can be no negative effects of this study on participants and all personal identifiable data remain confidential. Lastly,

there are obvious limitations presented in that this was a study of one school district and not a state or national sample. The teacher demographics and overall background and statistics are comparable to the state and national sample, thus, I do believe that this district-level sample provides the ability to generalize. Additional limitations and further description will be more fully discussed in the following chapter.

Chapter Four – Results and Analysis

The purpose of this study was to identify and explore the factors contributing to teacher persistence and attrition and explore the ways in which the school principal may impact such variables and decisions. The focus was on those factors associated with such variables with specific regard to building administrators. The results of this study will contribute to the research literature as it relates to teacher retention and attrition through mixed methods design and district-wide study through survey and interview methodologies and subsequent data triangulation. In addition, it can contribute to practitioner-based application findings related to improving teacher retention; at least in school systems similar to where the study was conducted. This chapter presents the results of the descriptive statistics; which provides a summary of the sample and the measures by reporting the means and standard deviations. Multiple regression was used to make judgments about the population based on the sample.

The following descriptive statistics show a general correlation to a national distribution as per the most recent data that could be obtained during the time of data analysis. These data include national, state statistics and correlate to that of the study site district. In 2013 the study state; enrolled over 1 million students in over 2,000 schools

across over 200 mostly school districts with 90,000 teachers¹. There was roughly one administrator for every 312 students, compared to the national average of one administrator for every 295 students (NCES). Within these data the study site presents the same ratios and numbers thus is directly comparable to the state averages, and as illustrated above there is not a great deal of discrepancy between a national sample and that of the state and district as well.

Descriptive Statistics

The descriptive information based on the results from the survey for the respondents has been summarized in the tables that follow. This survey was distributed through district email to all active teachers. No one other than an active full-time teacher completed the survey. Three hundred respondents out of the five hundred seventy or 52.6% of full time teachers read and agreed to the Teacher Informed Consent and participated in the survey. Of those who participated 137 (45.7%) were elementary teachers, 93 (31%) were middle school teachers, 62 (20%) were high school teachers, and 8 (2.7%) were teachers who spanned across the three levels. Table 3 displays the number of teachers who taught at their various levels of the sample study.

¹ numbers were rounded to maintain confidentiality

Table 3.

Descriptive Statistics of School Level

School Level	N = 300	Percent
Elementary	137	45.67%
Middle	93	31.00%
High	62	20.67%
Over	8	2.67%

Tables 4 - 7 depicts years of teaching experience for respondents in reference to the number of years worked as a teacher in their current school, the total number of years worked as a teacher, the number of years worked in the district, and number of years worked with current principal.

The following tables depict the number of years the respondent teacher worked in their current building. As the data indicate, the majority of these teachers; 223 (74.33%) have been in their current building for 1 – 10 years. This represents almost an even split of those with 1 – 3 years and those with 4 – 10 years.

Table 4.

Number of Years Worked in Current Building

Number of Years	N = 300	Percent
1 - 3 years	111	37.00%
4 - 10 years	112	37.33%
11 - 20 years	51	17.00%
More than 20 years	26	8.67%

Table 4 depicts the number of years the respondent teachers have worked in the teaching profession. As the data show, the majority of these teachers; 268 (89.33%) have been in service as a teacher for 4+ years, with the largest amount of service in the 4 – 10 year category; 99 (33%).

Table 5.

Total Number of Years Worked as a Teacher

Number of Years	N = 300	Percent
1 - 3 years	32	10.67%
4 - 10 years	99	33.00%
11 - 20 years	88	29.33%
More than 20 years	81	27.00%

Table 5 depicts the number of years the respondent teacher has worked within the sample district. As the data show, the majority of those teachers; 258 (86%) have been in service as a teacher within the sample district for fewer than 20 years. Only 41 (13.67%)

have been with this district longer. A single respondent opted to leave this question unanswered.

Table 6.

Number of Years Worked in the School District

Number of Years	N = 300	Percent
1 - 3 years	70	23.33%
4 - 10 years	113	37.67%
11 - 20 years	75	25.00%
More than 20 years	41	13.67%
(blank)	1	0.33%

Table 6 depicts the number of years respondent teachers have worked with their current building principal. According to the 2012-13 principal staffing survey from the United States Department of Education, over 20 percent of principals left their schools and over 70 percent of principals have less than five years at their current schools. In 2014, a School Leaders Network report found half of new principals leave by their third year. In 2012, RAND researchers found that when principals leave, the school underperforms the next year. As the data for the sample district shows, the majority of teachers; 282 (94%) have 1 – 3 years of service with their current building principal. Only 14 (4.67%) have 4-10 years of service with their current building principal. No respondent has more than 10 years of service with their current principal. There were four respondents who opted to leave this question unanswered.

Table 7.

Number of Years Worked with Current Principal

Number of Years	N = 300	Percent
1 - 3 years	282	94.00%
4 - 10 years	14	4.67%
(blank)	4	1.33%

The following tables 8 - 11 show demographic information (personal factors of teacher attrition) of respondents; their highest degree or level of school, their gender, and their description of race.

According to the NCES; the percentage of public-school teachers who held a post baccalaureate degree (i.e., a master's, education specialist, or doctor's degree) was higher in 2015–16 (57%) than in 1999–2000 (47%). This pattern was observed at both the elementary and secondary levels. Some 55% of elementary school teachers and 59% of secondary school teachers held a post baccalaureate degree in 2015–16, whereas 45% and 50%, respectively, held a post baccalaureate degree in 1999–2000. In both school years, a lower percentage of elementary school teachers than secondary school teachers held a post baccalaureate degree. In 2015–16, some 90% of public-school teachers held a regular or standard state teaching certificate or advanced professional certificate, 4% held a provisional or temporary certificate, 3% held a probationary certificate, 1% held no certification, and 1% held a waiver/emergency certificate. A higher percentage of teachers in 2015–16 than in 1999–2000 held a regular certificate (90% vs. 87%). In both school years, a higher percentage of elementary than secondary school teachers held a

regular certificate (88% vs. 85% in 1999–2000; 91% vs. 90% in 2015–16). In 2015–16, about 10% of public school teachers had less than 3 years of teaching experience, 28% had 3 to 9 years of experience, 39% had 10 to 20 years of experience, and 22% had more than 20 years of experience. Lower percentages of teachers in 2015–16 than in 1999–2000 had less than 3 years of experience (10% vs. 11%) and over 20 years of experience (22% vs. 32%). However, the percentage who had 10 to 20 years of experience was higher in 2015–16 than in 1999–2000 (39% vs. 29%). There was no measurable difference between 1999–2000 and 2015–16 in the percentage of teachers with 3 to 9 years of experience.

Table 8 depicts the level of education that respondents chose from the list provided. The majority of the sample study; 214 (71.33%) reported having a Master’s degree as their highest level of education completed. Two respondents opted to leave this question unanswered.

Table 8.

Highest Degree Earned

Level of Education	N = 299	Percent
Bachelor’s degree	78	26.00%
Master’s degree	214	71.33%
Doctorate degree	1	0.33%
Professional degree	4	1.33%
(blank)	2	0.67%

Table 9 depicts the gender respondents chose from the list provided. Teaching continues to be a profession dominated by women. According to 2018 projections from NCES 77 percent of teachers are female, while 23 percent are male (NCES). In the majority of the sample study; 249 (83%) listed their gender as female, 48 (16%) as male. While Three respondents opted to leave this question unanswered. This is representative of state and national statistics as nationally 76% of teachers are female. National data on school principals indicate only 52% are female and at the secondary level, the percentage of female principals further decreases; the National Center for Education Statistics (NCES) reports that 65% of secondary school principals are male and 35% are female. Within the study site district, the total percent of male principals is 45% while at the secondary level 75% are male.

Table 9.

Descriptive Statistics of Gender

Gender	N = 300	Percent
Female	249	83.00%
Male	48	16.00%
(blank)	3	1.00%

Table 10 depicts the race respondents chose from the list provided. According to the National Center of Education Statistics, national demographics look very similar to the sample study. Nationally, 80% White, 8.8% Hispanic, 6.7% Black, 2.3% Asian, 1.4% Two or more races, 0.4% American Indian / Alaska Native, and 0.2% Native

Hawaiian / Pacific Islander (NCES). For the same sample study coding; which can be found in Appendix G, was done in order to simplify data collection as several respondents chose multiple selections. The vast majority; 261 (87%) listed their race as White. Three respondents opted to leave this question unanswered.

Table 10.

Descriptive Statistics of Race

Race	N = 300	Percent
Asian	3	1.00%
Black or African American	14	4.67%
Multiple	4	1.33%
Other	15	5.00%
White	261	87.00%
(blank)	3	1.00%

Table 11 depicts coded data; found in Appendix G, of the respondents' choice of immediate professional plans for the next school year. The majority; 239 (79%) have chosen to stay; while 60 (21%) have decided to either leave or move. A single respondent opted to leave this question unanswered. These data are not representative of the district as a whole as almost 20% left the district and that does not include the Mover data as the district does not track this. If the Mover data were also included, this would make the total included here much higher.

Table 11.

Professional Intentions for the Next School Year

Professional Plan	N = 300	Percent
Leaver	12	4.00%
Mover	48	16.00%
Stayer	239	79%
(blank)	1	0.33%

Data Analysis and Findings

Research question one. What are the reasons teachers leave or stay in their school, their school district, or profession? The respondent teachers were asked to answer 24 organization factor questions that they were able to select on a 5 point scale (5 being extremely important, and 1 being not at all important) the level of which would influence their decision to leave or stay for the following school year. The following; Figure 7, shows descriptive statistics (included was the statistical mean “M”; which refers to the mean or average that is used to derive the central tendency of the data in question which shows the overall level of perceived relevance of importance, the standard deviation. Standard Deviation; “SD”, is a measure that is used to quantify the amount of variation or dispersion of a set of data values. A low standard deviation indicates that the data points tend to be close to the mean while a high standard deviation indicates that the data points are spread out over a wider range of values and could indicate a non-standard result. In the figures that follow, each questions will be expressed with respect to those who have chosen to leave, move, or stay. The survey questions utilized a five-point scale (from 1 = not at all important to 5 = extremely important) to allow the researcher to better

understand the respondents' higher attribution of importance. The higher the mean, the higher attribution of importance accorded each of the factors – for this study a score of 4 or higher was considered significant. Conversely, the lower the mean, the more the participants disagreed with each of the factors. Additionally, the higher the standard deviation rate the higher level of inconsistency between participant responses on attribution of importance for each factor, and the lower the standard deviation the more consistently participants responded with attribution of importance.

For this study a SD score of higher than 1 was considered to yield inconsistency between respondents, while a score lower than 1 was considered as yielding more consistency in responses. Lastly, to further illustrate and capture more fully the participant attribution of importance, a table for each factor meeting the above mentioned criteria of highest mean with lower standard deviation, has been included under each of those responses. These tables outline the breakdown of all participants as well as each participant sub group for their respective responses with the highest attribution of importance by number and percent response by attribution of 1-5.

The means and the SD broken down by turnover intention has been included for reference (see Appendix H) but findings to include the mean for factors related to research question one are illustrated below. Figure 7 below represents the mean (M) of the data gathered via survey method of the entire district sample of participant responses for factors related to their retention and attrition decisions to include movers, leavers and stayers. As will be discussed in greater detail below, the overall findings indicate that the top 10 reasons that teachers leave or stay in general across all participant subgroups are

due to, in order of highest mean attribution of importance, school culture/climate, level of teacher autonomy in classroom decisions, personal work achievement (defined as experiencing personal success), students (defined as e.g. relationships, behavior differentiation/needs), relationships with colleagues, working conditions (defined as e.g. facility conditions, available material), and principals knowledge/support of your needs, discipline, salary and safety.

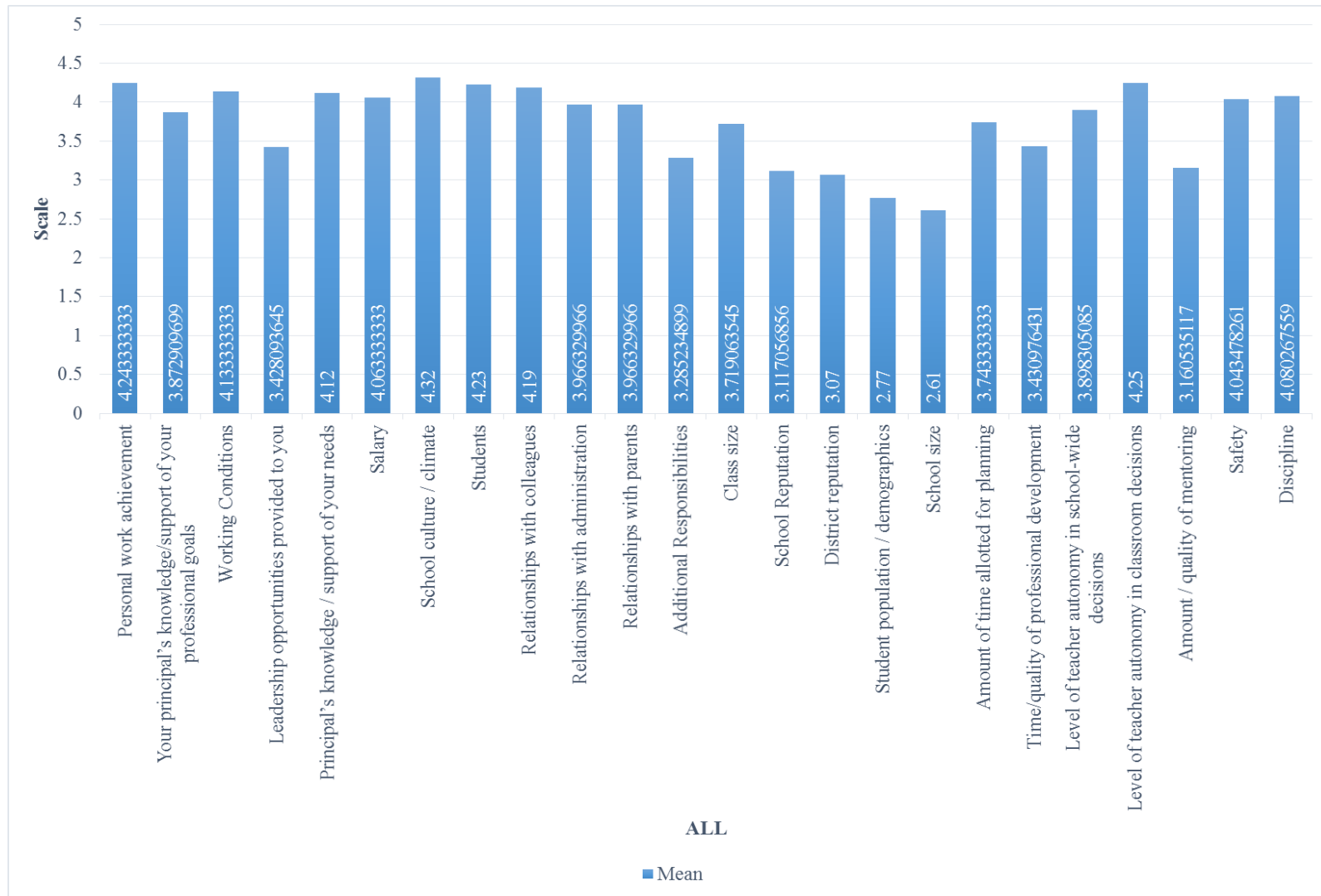


Figure 7. Mean attribution of importance for all factors.

The data indicate that the five factors having the highest attribution of importance in order from greatest to least were: school culture/climate ($M=4.32$), level of teacher autonomy in classroom decisions ($M=4.25$), personal work achievement ($M=4.24$), students ($M=4.23$), working conditions ($M=4.13$), and principal's knowledge/support of your needs ($M=4.12$). The data indicate that the five factors having the lowest attribution of importance in order from least to greatest were: school size ($M=2.61$), student population/demographics ($M=2.77$), district reputation ($M=3.07$), school reputation ($M=3.11$), amount/quality of mentoring ($M=3.16$). Throughout all respondent data, there were only nine factors that had a SD of less than one, which is what I considered to be significant for the purposes of this study as there was less variation in responses. Those factors in order of the lowest to highest standard deviation are as follows: personal work achievement ($SD=.85$), level of teacher autonomy in classroom decisions ($SD=.89$), relationships with colleagues ($SD=.89$), school culture/climate ($SD=.93$), level of teacher autonomy in school-wide decisions ($SD=.97$), relationships with administration ($SD=.98$), relationships with parents ($SD=.98$), students ($SD=.98$), and working conditions ($SD=.98$). I felt that it was important to outline this aggregate of all teacher respondents as well as to identify the mean attribution of importance with standard deviation for all respondents initially in order to illustrate the factors important to all teachers prior to accounting for variability in responses. I chose this initial manner as previous research literature has identified factors as having a high or low attribution of importance and I wanted to illustrate this study's findings.

The district in this study experienced an approximately 20% attrition rate. This explains the breakdown of response rates being the largest in the stayer subgroup yielding the larger percentage rates. I was unable to determine this with certainty; however, as data for the mover subgroup are unavailable. The district surveyed does not collect data on movers within the district between schools, so I was unable to compare overall numbers with this subgroup. This limitation is discussed later in chapter 5.

The individual sub groups of stayers, leavers and movers are broken down individually below in Figures 10-12 as it is important to see the difference in the needs and perceptions of these individual groups. The subgroup data are included as highest attribution of importance below similar to all participant data presentation, of overall mean above four out of five but these factors did not all have a standard deviation of below one, so all factors with a mean importance of four or above are included. Standard deviation is also included for reference but was not a criterion considered for inclusion in the graphs.

I also thought it important to include this overall information as if the goal were to retain teachers. Figure 8 provides information of the entire district all response data, but one should keep in mind that responses were heavily from those making the choice to persist both in the district as well as their current school. Thus, these data could be powerful for retention both collectively and individually. These findings comport with the review of information above in Chapter 2 regarding the importance of a supportive environment to all teachers.

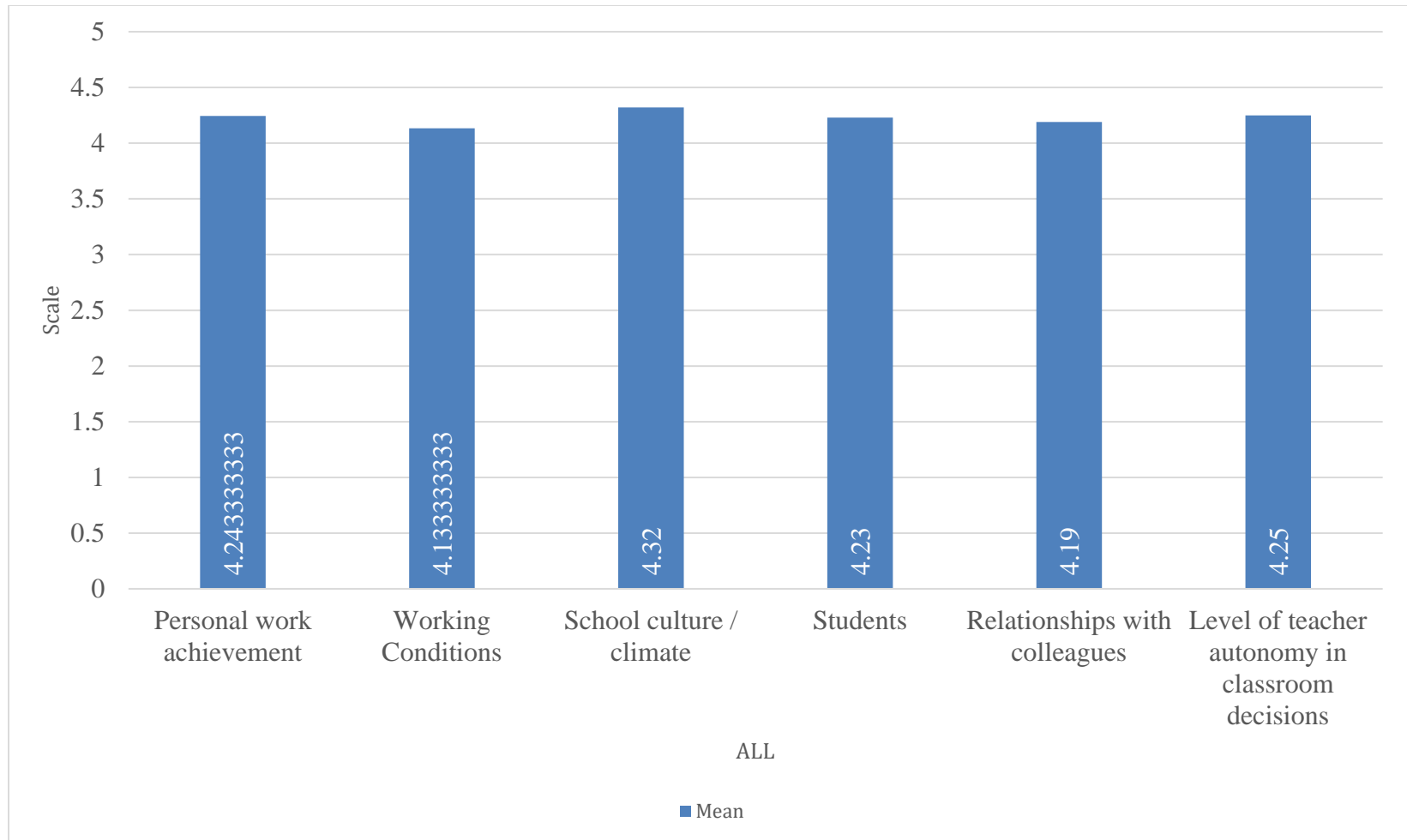


Figure 8. Factors with Mean attribution of importance above four with Standard Deviation below one for all participants

Within Figure 8 these data are showing only those factors with a mean attribution of importance of four or higher in addition to a standard deviation of below 1. There were only six factors out of all included meeting these criteria across all respondents. I have broken down each response by attribution of importance by number and percent by factor meeting these criteria below.

Table 12.

Distribution of Scores for Six Factors with Mean Attribution of Importance of 4 or Higher – ALL

Personal Work Achievement - ALL	SD – 0.86	Mean - 4.24
Scale	Count	Percent
1	4	1.33%
2	6	2.00%
3	40	13.33%
4	113	37.67%
5	137	45.67%

Working Conditions - ALL	SD – 0.98	Mean - 4.13
Scale	Count	Percent
1	7	2.33%
2	13	4.33%
3	46	15.33%
4	101	33.67%
5	133	44.33%

School culture / climate - ALL	SD – 0.93	Mean - 4.32
Scale	Count	Percent
1	7	2.33%
2	5	1.67%
3	40	13.33%
4	81	27.00%
5	167	55.67%

Students (e.g., relationships, behavior, differentiation/needs) – ALL	SD – 0.99 Mean - 4.23	
Scale	Count	Percent
1	8	2.67%
2	11	3.67%
3	38	12.67%
4	90	30.00%
5	153	51.00%

Relationships with Colleagues - ALL	SD – 0.90 Mean - 4.19	
Scale	Count	Percent
1	6	2.00%
2	5	1.67%
3	47	15.67%
4	110	36.67%
5	132	44.00%

Level of teacher autonomy in classroom decisions - ALL	SD – 0.90 Mean - 4.25	
Scale	Count	Percent
1	6	2.00%
2	7	2.33%
3	35	11.67%
4	110	36.67%
5	142	47.33%

Table 12 lists the six factors found that possessed a mean attribution of importance of 4/5 or higher within the sample. In order to answer research question one in addition to those figures above, which illustrate the overall response and significant attribution of importance with minimal variation in response for all teachers, I also answered research question one for each sub group.

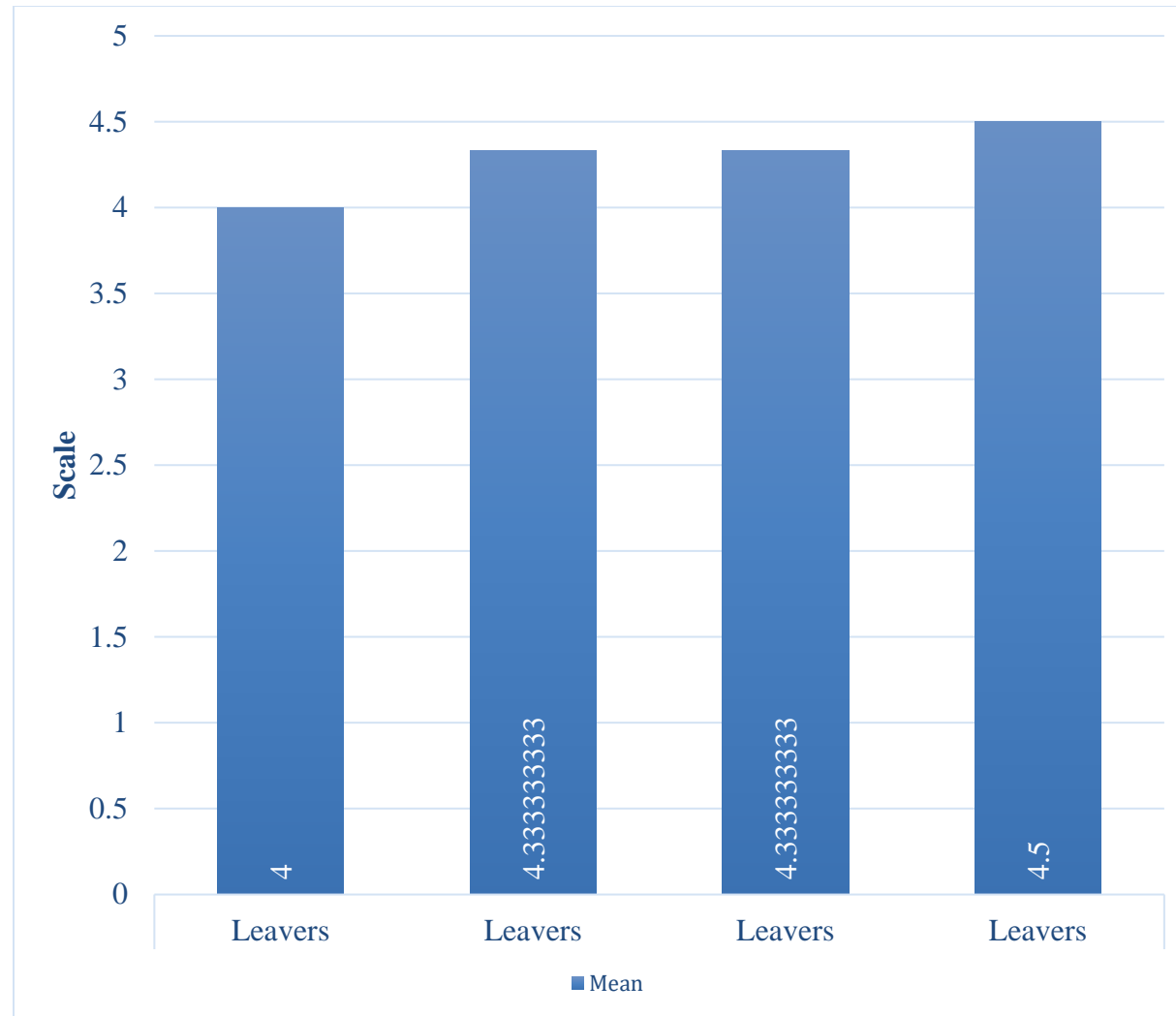


Figure 9. Factors with Mean attribution of importance above four for leavers

Within Figure 9 these data show only those factors with a mean attribution of importance of four or higher. There were only four factors out of all factors included making this criteria across Leaver respondents. I have broken down each response by attribution of importance by number and percent by factor meeting this criterion in Table 13.

Table 13.

Four Factors with Mean Attribution of Importance of 4/5 or Higher – Leavers Sub Group

Personal work achievement - Leavers	SD – 1.20	Mean - 4
Scale	Count	Percent
1	1	8.33%
3	2	16.67%
4	4	33.33%
5	5	41.67%

School culture / climate - Leavers	SD – 1.23	Mean - 4.33
Scale	Count	Percent
1	1	8.33%
3	1	8.33%
4	2	16.67%
5	8	66.67%

Students (e.g., relationships, behavior, differentiation/needs) – Leavers	SD – 1.15	Mean - 4.33
Scale	Count	Percent
1	1	8.33%
4	4	33.33%
5	7	58.33%

Discipline – Leavers	SD – 1.17	Mean – 4.5
Scale	Count	Percent
1	1	8.33%
4	2	16.67%
5	9	75.00%

Table 13 lists the four factors found that possessed a mean attribution of importance of 4/5 or higher within the sample.

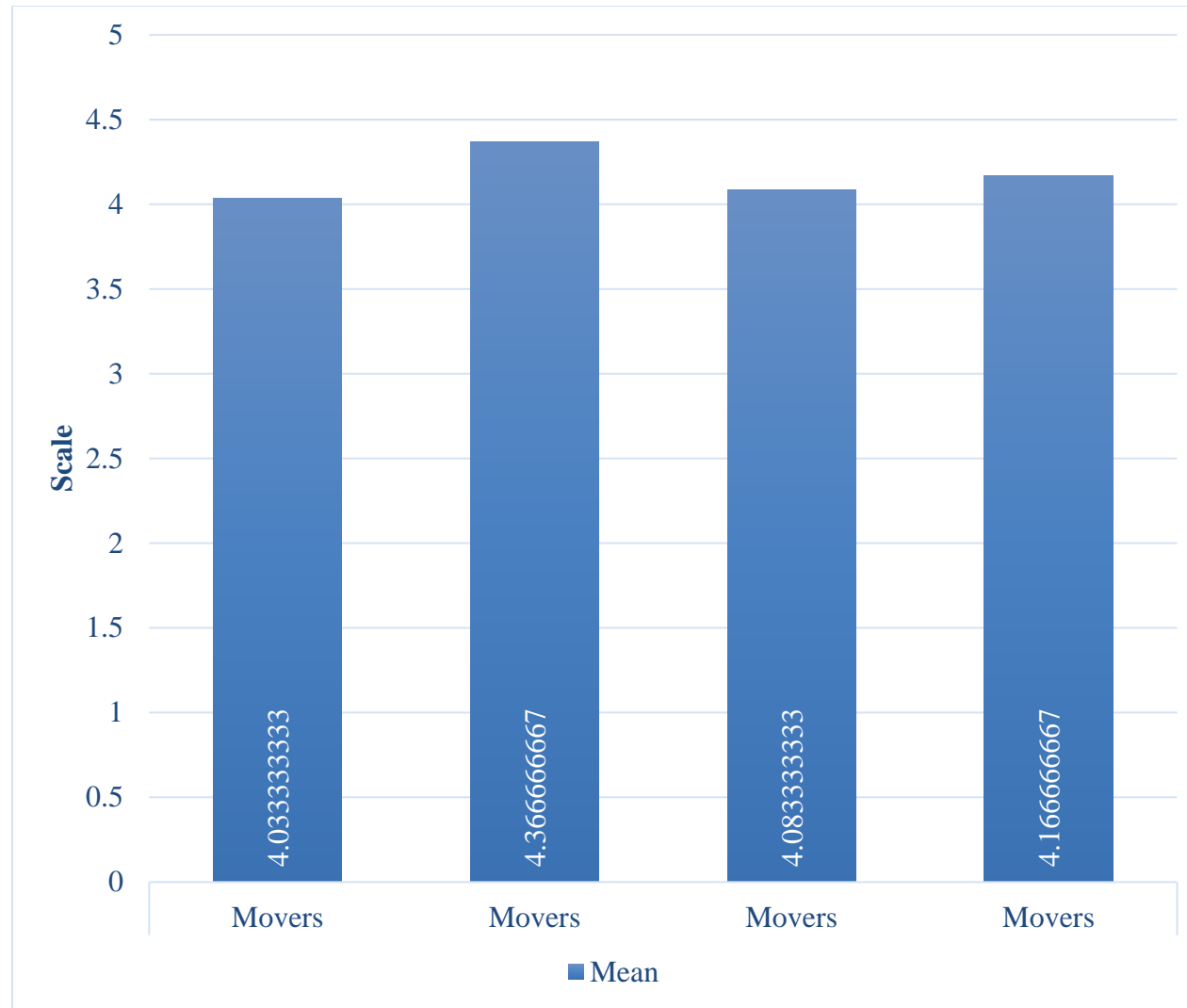


Figure 10. Factors with Mean attribution of importance above four with Standard Deviation below one for movers

Within Figure 10 these data show only those factors with a mean attribution of importance of four or higher. There were only four factors out of all included making this criteria across Mover respondents. I have broken down each response by attribution of importance by number and percent by factor meeting this criteria in Table 14.

Table 14.

Four Factors with Mean Attribution of Importance of 4/5 or Higher – Movers Sub Group

Principal's knowledge / support of your needs - Movers	SD – 1.18 Mean - 4.03	
Scale	Count	Percent
1	2	4.17%
2	1	2.08%
3	5	10.42%
4	16	33.33%
5	23	47.92%
(blank)	1	0.020833

School culture / climate - Movers	SD – 1.12 Mean - 4.36	
Scale	Count	Percent
1	3	6.25%
3	5	10.42%
4	8	16.67%
5	32	66.67%

Students (e.g., relationships, behavior, differentiation/needs) – Movers	SD – 1.17 Mean - 4.08	
Scale	Count	Percent
1	3	6.25%
2	3	6.25%
3	5	10.42%
4	16	33.33%
5	21	43.75%

Discipline – Movers	SD – 1.21	Mean - 4.16
Scale	Count	Percent
1	4	8.33%
2	1	2.08%
3	6	12.50%
4	13	27.08%
5	24	50.00%

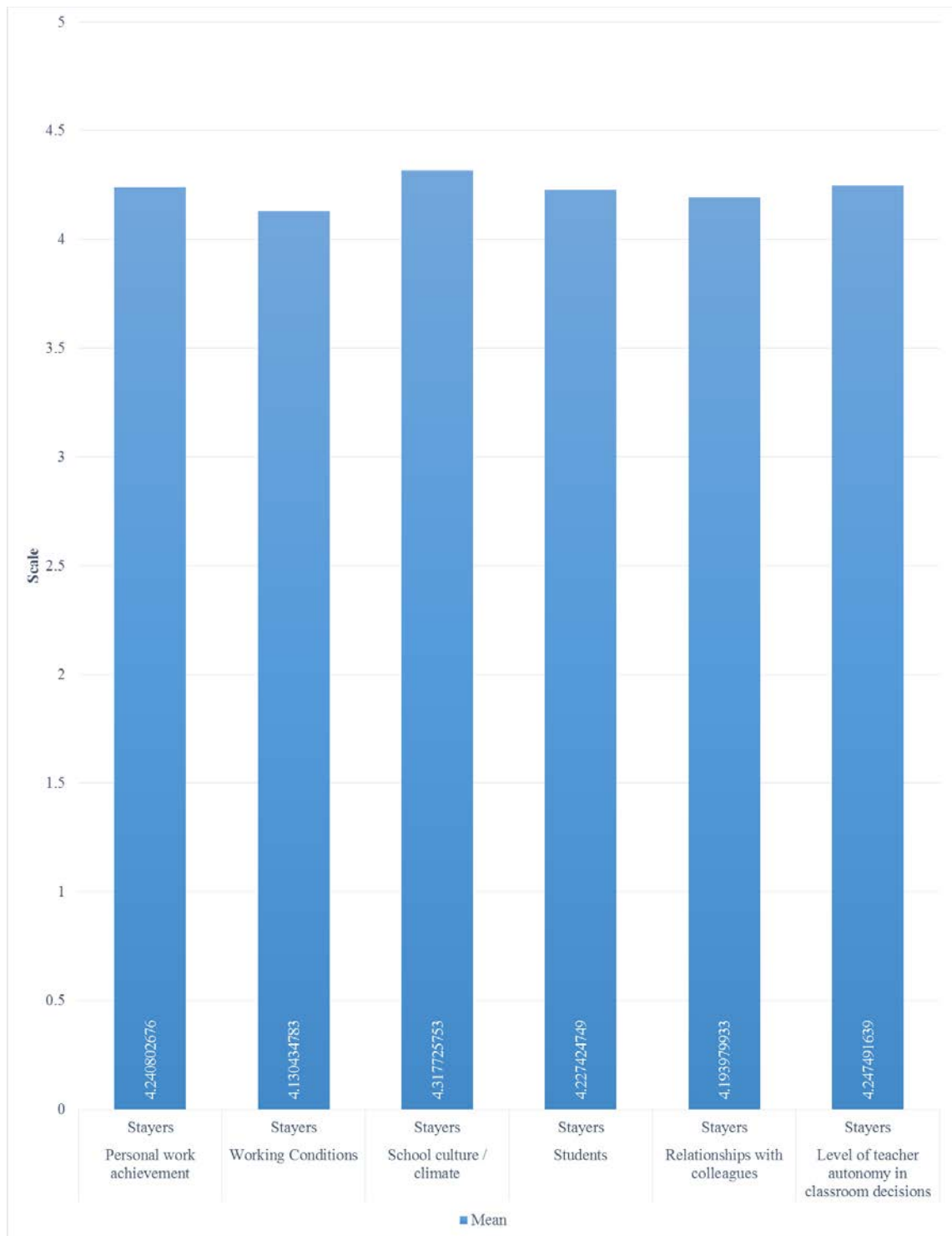


Figure 11. Factors with Mean attribution of importance above four with standard deviation below one for stayers

Within Figure 11 these data are showing only those factors with a mean attribution of importance of four or higher. There are factors meeting the criteria outlined for inclusion in the all of mean above four and standard deviation below one but in order to compare across all subgroups in the same manner all factors with mean above four are included. There were ten factors out of all included meeting this criterion across Stayer respondents. I have broken down each response by attribution of importance by number and percent by factor meeting this criterion in Table 15.

Table 15.

Ten Factors with Mean Attribution of Importance of 4/5 or Higher – Stayers Sub Group

Personal work achievement - Stayers	SD – 0.86	Mean - 4.24
Scale	Count	Percent
1	1	0.42%
2	3	1.26%
3	30	12.55%
4	93	38.91%
5	112	46.86%

Working Conditions - Stayers	SD – 0.98	Mean - 4.13
Scale	Count	Percent
1	3	1.26%
2	9	3.77%
3	36	15.06%
4	88	36.82%
5	103	43.10%

Principal's knowledge / support of your needs - Stayers	SD – 1.08	Mean - 4.12
Scale	Count	Percent
1	9	3.77%
2	11	4.60%

3	31	12.97%
4	73	30.54%
5	115	48.12%

Salary – Stayers	SD – 1.00	Mean - 4.06
Scale	Count	Percent
1	1	0.42%
2	7	2.93%
3	38	15.90%
4	90	37.66%
5	103	43.10%

School culture / climate - Stayers	SD – 0.93	Mean - 4.31
Scale	Count	Percent
1	3	1.26%
2	5	2.09%
3	34	14.23%
4	71	29.71%
5	126	52.72%

Students (e.g., relationships, behavior, differentiation/needs) – Stayers	SD – 0.99	Mean - 4.22
Scale	Count	Percent
1	4	1.67%
2	8	3.35%
3	33	13.81%
4	70	29.29%
5	124	51.88%

Relationships with colleagues - Stayers	SD – 0.90	Mean - 4.19
Scale	Count	Percent
1	2	0.84%
2	3	1.26%
3	31	12.97%
4	91	38.08%
5	112	46.86%

Level of teacher autonomy in classroom decisions - Stayers	SD – 0.90	Mean - 4.24
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Scale	Count	Percent
1	2	0.84%
2	5	2.09%
3	25	10.46%
4	86	35.98%
5	121	50.63%

Safety – Stayers	SD – 1.10	Mean - 4.04
Scale	Count	Percent
1	3	1.26%
2	15	6.28%
3	43	17.99%
4	64	26.78%
5	113	47.28%
(blank)	1	0.004184

Discipline – Stayers	SD – 1.06	Mean - 4.07
Scale	Count	Percent
1	4	1.67%
2	16	6.69%
3	45	18.83%
4	71	29.71%
5	102	42.68%
(blank)	1	0.004184

Table 15 lists the ten factors found that possessed a mean attribution of importance of 4/5 or higher within the sample.

According to these data, the reasons teachers leave or stay in their school, their school district, or profession are very similar but do vary by subgroup. Overall findings indicate that the reasons that teachers leave or stay in general are due to, in order of highest mean attribution of importance, school culture/climate, level of teacher autonomy in classroom decisions, personal work achievement (defined as experiencing personal

success), students (defined as e.g. relationships, behavior, differentiation/needs), working conditions (defined as e.g. facility conditions, available material), principals knowledge/support of your needs relationships with colleagues. Additionally, the school culture and climate also had 56% of respondents giving this a five out of five attribution of importance. Students were accorded the same response by 51% of respondents.

The reasons teachers leave their schools are, in order of highest mean attribution of importance: discipline, school culture/climate, students, personal work achievement. Within this sub group, 75% gave discipline a five out of five attribution of importance, and 67% gave school culture and climate a five out of five attribution of importance. The reasons that teachers move from schools are in order of highest mean attribution of importance: school culture/climate, discipline, students, and principal's knowledge/support of your needs. This subgroup gave a five out of five attribution of importance to school culture/climate and 50% to discipline. The reasons that teachers stay in their current schools are in order of highest attribution of importance: school culture/climate, level of teacher autonomy in classroom decisions, personal work achievement, students, relationships with colleagues, working conditions, principal's knowledge/support of your needs. Within the stayers sub group 53% gave school culture and climate a five out of five attribution of importance, students 52%, and level of teacher autonomy and classroom decisions 51%.

Research Question Two

In what ways do principals contribute to teacher decisions to leave or stay in their school, district, and profession? The respondent teachers were asked to answer 9

principal specific factor questions that they were able to select on a 5 point scale (5 being extremely important, and 1 being not at all important) the level of which would influence their decision to leave or stay for the following school year. The following table will show descriptive statistics (included was the statistical mean “M” and the standard deviation “SD”. The following table displays descriptive statistics (included was the statistical mean “M and the standard deviation “SD”. Each of these questions was compared with respect to those who have chosen to leave, move, or stay. The survey questions utilized a five-point scale (from 1 = not at all important to 5 = extremely important) to allow the researcher to better understand the respondents’ higher attribution of importance. The higher the mean, the higher attribution of importance to each of the factors – for this study a score of 4 or higher was considered significant. Conversely, the lower the mean, the more the participants disagreed with each of the factors.

Additionally, the higher the standard deviation rate, the higher the inconsistency between participant responses on attribution of importance for each factor, and the lower the SD the more consistently participants responded with attrition of importance. For this study a SD score of higher than 1 was considered to yield inconsistency between respondents, while a score lower than 1 was considered as yielding more consistency in responses.

Lastly, to further illustrate and capture more fully the participant attribution of importance, a table for each factor meeting the above mentioned criteria of highest mean with lower standard deviation has been included under each of those responses. These tables outline the breakdown of all participants as well as each participant sub group for their respective responses with the highest attribution of importance by number and

percent response. The subgroup data are included as highest attribution of importance similar to all participant data presented, of an overall mean above four out of five but these factors did not all have a standard deviation of below one, so all factors with a mean importance of four or above are included. Standard deviation is also included for reference but was not a criterion for inclusion in the graphs.

The entire data set has been included for reference (see Appendix H) but findings to include the mean for factors related to research question two are illustrated below. Figure 8 below represents the mean of the data gathered via survey method of the entire district sample of participant responses for factors related to their principals and their retention and attrition decisions to include movers, leavers and stayers.

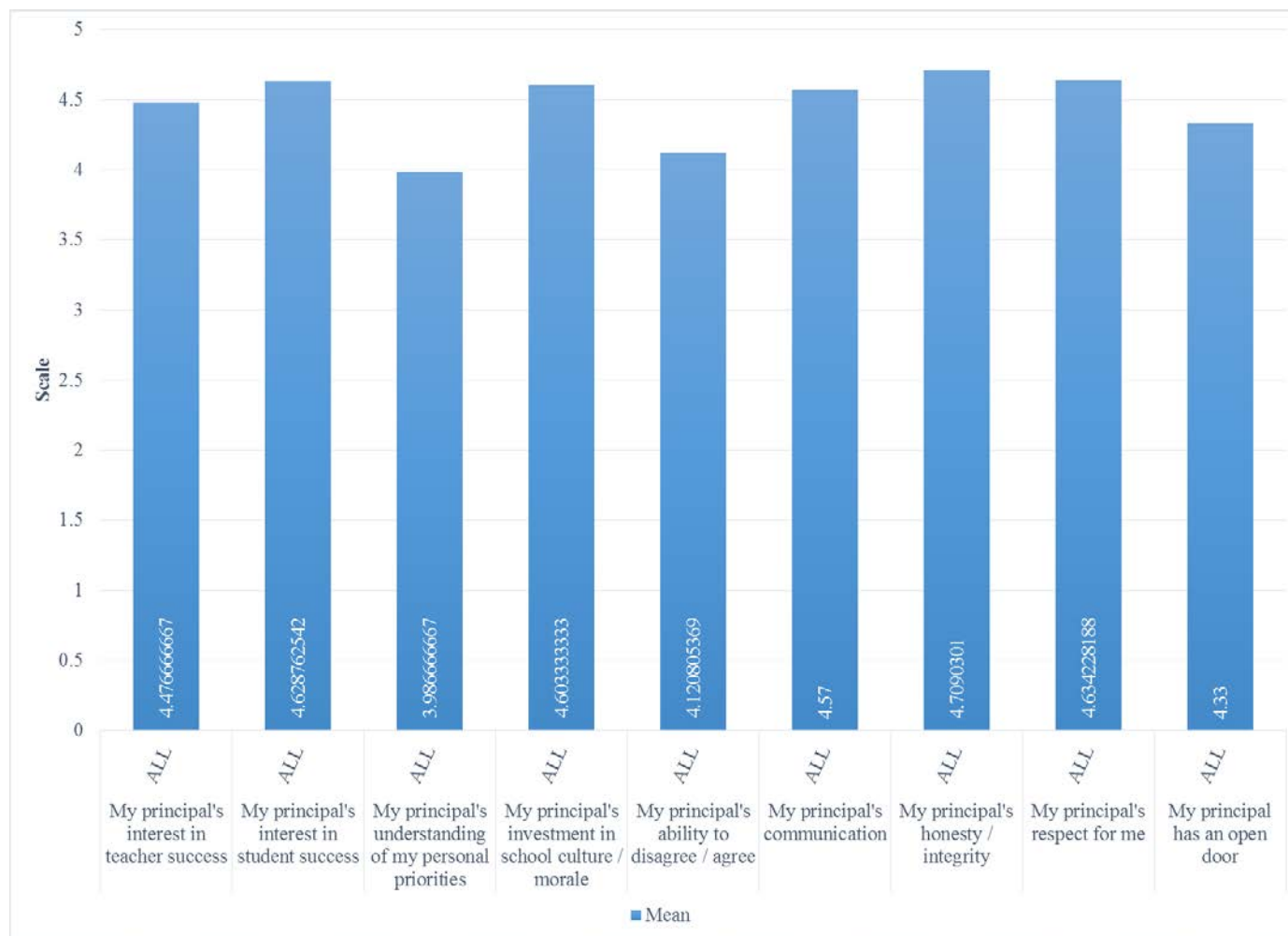


Figure 12. Mean attribution of importance for retention/attrition principal's contribution

The data indicate that the five factors having the highest attribution of importance in order from greatest to least were: My principal's honesty/integrity (M=4.7), My principal's respect for me (M=4.63), My principal's interest in student success (M=4.62), My principal's investment in school culture/morale (M=4.63), and My principal's communication (M=4.60).

The data indicate that the five factors having the lowest attribution of importance in order from least to greatest were: My principal's understanding of my personal priorities (M=3.99), My principal's ability to agree/disagree (M=4.12), My principal has an open door (M=4.33), My principal's interest in teacher success (M=4.48), and My principal's communication (M=4.57).

Within Figure 12 these data are showing only those factors with a mean attribution of importance of 4/5 or higher in addition to a standard deviation of below .25. There were only nine factors out of all included that met these criteria across all respondents.

I have broken down each response in Table 16 by attribution of importance by number and percent by factor.

Table 16.

Factors with Mean Attribution of Importance of 4/5 or Higher – All

My principal's interest in teacher success – ALL	SD – 0.79	Mean - 4.47
Scale	Count	Percent
1	4	1.33%
2	2	0.67%
3	25	8.33%

4	85	28.33%
5	184	61.33%

My principal's interest in student success – ALL			SD – 0.69	Mean - 4.62
Scale	Count	Percent		
1	4	1.33%		
3	12	4.00%		
4	71	23.67%		
5	212	70.67%		
(blank)	1	0.33%		

My principal's understanding of my personal priorities – ALL			SD – 0.94	Mean - 3.98
Scale	Count	Percent		
1	4	1.33%		
2	14	4.67%		
3	69	23.00%		
4	108	36.00%		
5	105	35.00%		

My principal's investment in school culture / morale - ALL			SD – 0.69	Mean - 4.60
Scale	Count	Percent		
1	3	1.00%		
2	1	0.33%		
3	15	5.00%		
4	74	24.67%		
5	207	69.00%		

My principal's ability to disagree / agree - ALL			SD – 0.91	Mean - 4.12
Scale	Count	Percent		
1	7	2.33%		
2	4	1.33%		
3	54	18.00%		
4	114	38.00%		
5	119	39.67%		
(blank)	2	0.00667		

My principal's communication - ALL	SD – 0.77	Mean - 4.57
Scale	Count	Percent
1	5	1.67%
2	1	0.33%
3	20	6.67%
4	66	22.00%
5	208	69.33%

My principal's honesty / integrity - ALL	SD – 0.64	Mean - 4.70
Scale	Count	Percent
1	3	1.00%
2	2	0.67%
3	8	2.67%
4	53	17.67%
5	233	77.67%
(blank)	1	0.00333

My principal's respect for me - ALL	0.70	Mean - 4.63
Scale	Count	Percent
1	3	1.00%
2	2	0.67%
3	15	5.00%
4	61	20.33%
5	217	72.33%
(blank)	2	0.00667

My principal has an open door - ALL	SD – 0.89	Mean - 4.33
Scale	Count	Percent
1	5	1.67%
2	6	2.00%
3	38	12.67%
4	87	29.00%
5	164	54.67%

Table 16 lists the factors that possessed a mean attribution of importance of 4/5 or higher within the sample.

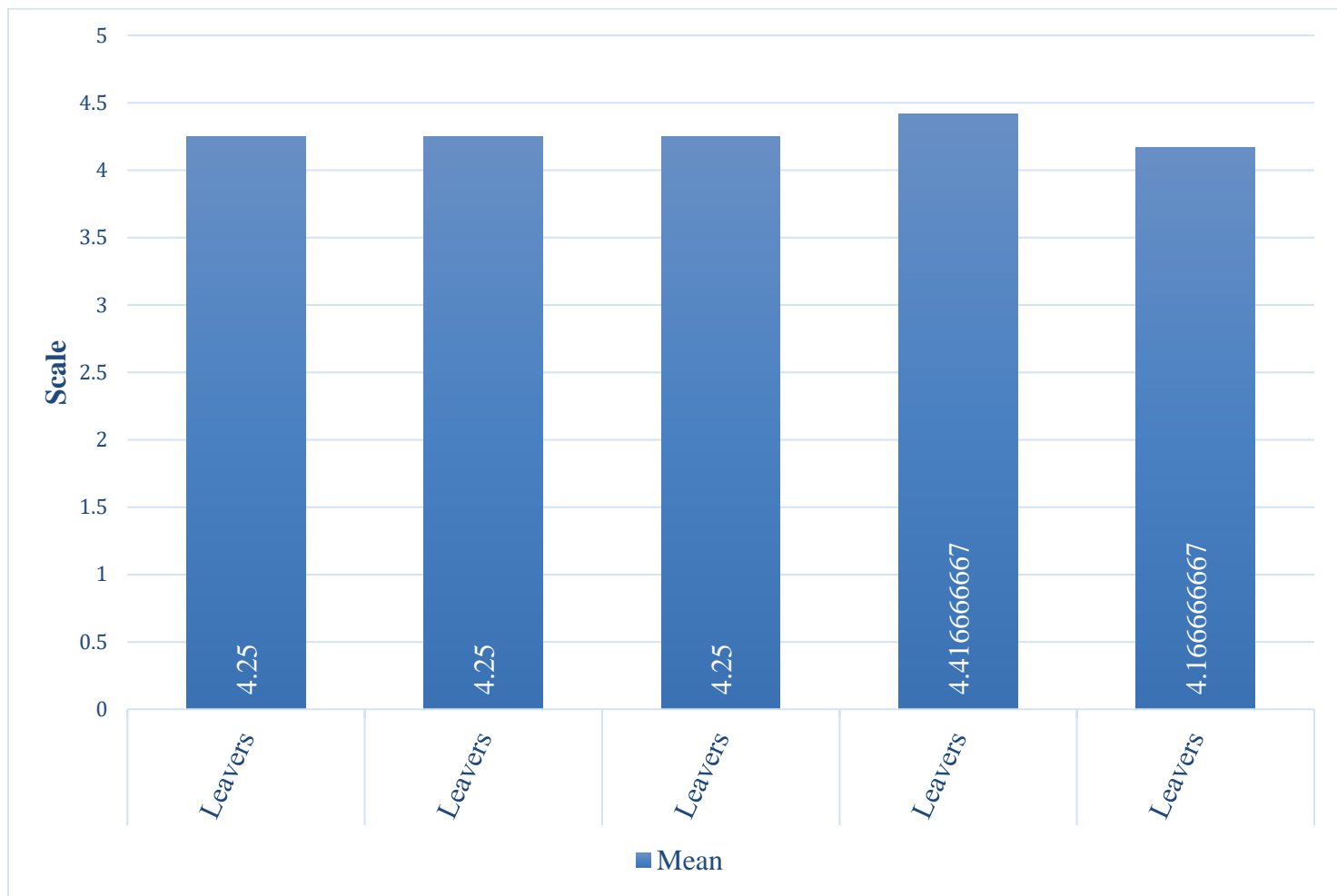


Figure 13. Mean attribution of importance for retention/attrition principal's contribution – Leavers Sub Group

Within Figure 13 these data are showing only those factors with a mean attribution of importance of 4/5 or higher in addition to the lowest standard deviations. There were only five factors out of all factors included meeting these criteria across Leaver respondents. I have broken down each response by attribution of importance by number and percent by factor in Table 17 below.

Table 17.

Factors with Mean Attribution of Importance of 4/5 or Higher – Leavers Sub Group

My principal's interest in student success - Leavers	SD – 1.21	Mean - 4.25
Scale	Count	Percent
1	1	8.33%
3	1	8.33%
4	3	25.00%
5	7	58.33%

My principal's investment in school culture / morale - Leavers	SD – 1.14	Mean - 4.25
Scale	Count	Percent
1	1	8.33%
4	5	41.67%
5	6	50.00%

My principal's communication - Leavers	SD – 1.14	Mean - 4.25
Scale	Count	Percent
1	1	8.33%
4	5	41.67%
5	6	50.00%

My principal's honesty / integrity - Leavers	SD – 1.16	Mean - 4.41
Scale	Count	Percent
1	1	8.33%
4	3	25.00%
5	8	66.67%

My principal's respect for me - Leavers	SD – 1.27	Mean - 4.16
Scale	Count	Percent
1	1	8.33%
3	2	16.67%
4	2	16.67%
5	7	58.33%

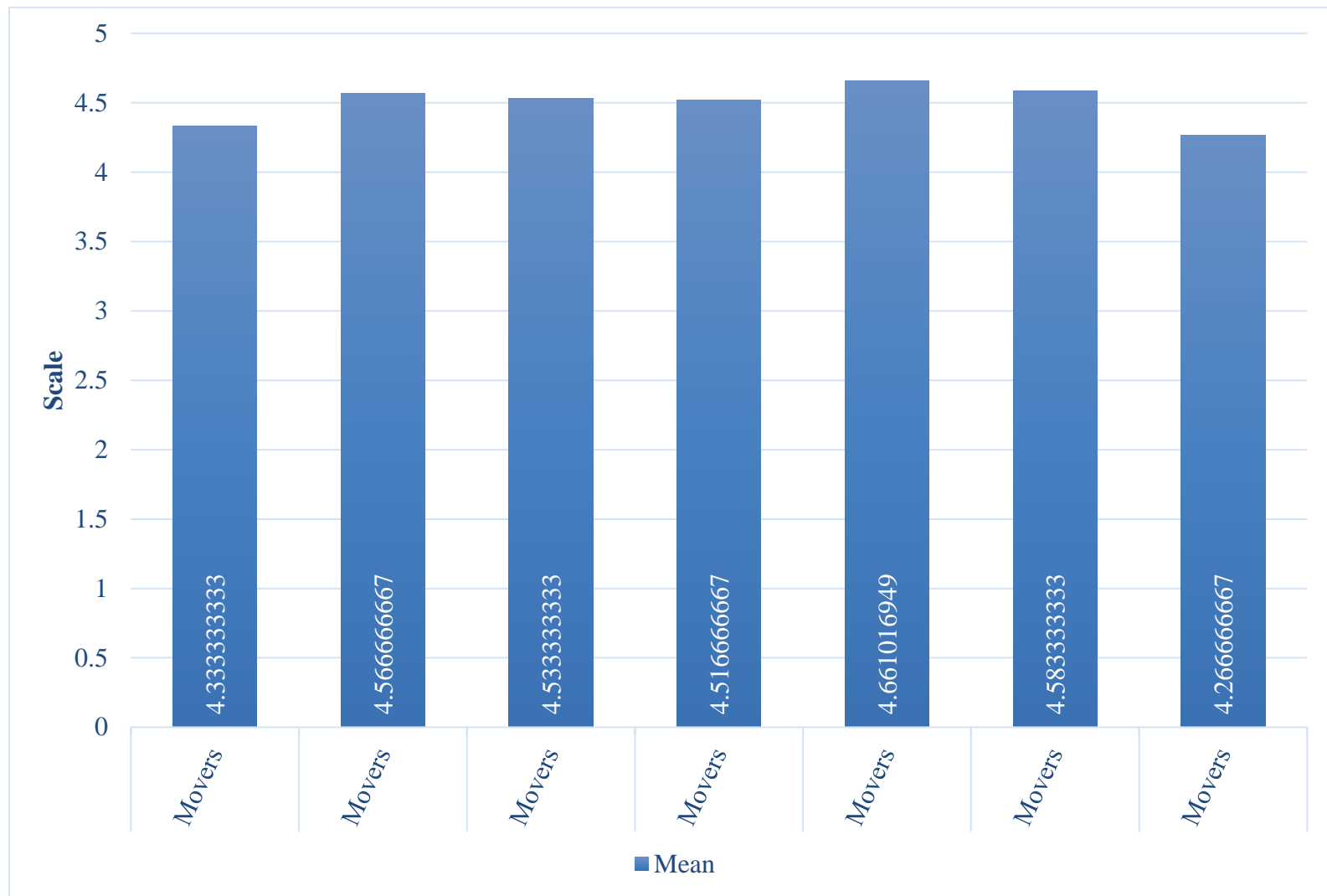


Figure 14. Mean attribution of importance for retention/attrition, principal's contribution Movers Sub Group

Within Figure 14 these data show only those factors with a mean attribution of importance of four or higher and a standard deviation of one or below. In order to compare across all subgroups in the same manner all factors with means above four are included. There were seven out of all factors included meeting these criteria across Mover respondents. I have broken down each response by attribution of importance by number and percent by factor meeting these criteria in Table 18.

Table 18.

Factors with Mean Attribution of Importance of 4/5 or Higher – Movers Sub Group

My principal's interest in teacher success - Movers	SD – 0.95	Mean - 4.33
Scale	Count	Percent
1	1	2.08%
3	5	10.42%
4	13	27.08%
5	29	60.42%

My principal's interest in student success - Movers	SD – 0.87	Mean - 4.56
Scale	Count	Percent
1	1	2.08%
3	2	4.17%
4	9	18.75%
5	36	75.00%

My principal's investment in school culture / morale - Movers	SD – 0.81	Mean - 4.53
Scale	Count	Percent
2	1	2.08%
3	3	6.25%
4	10	20.83%
5	34	70.83%

My principal's communication - Movers	SD – 0.91	Mean - 4.51
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Scale	Count	Percent
1	1	2.08%
2	1	2.08%
3	2	4.17%
4	9	18.75%
5	35	72.92%

My principal's honesty / integrity - Movers		SD – 0.78	Mean - 4.66
Scale	Count	Percent	
2	1	2.08%	
3	2	4.17%	
4	6	12.50%	
5	38	79.17%	
(blank)	1	2.08%	

My principal's respect for me - Movers		SD – 0.77	Mean - 4.58
Scale	Count	Percent	
3	2	4.17%	
4	11	22.92%	
5	35	72.92%	

My principal has an open door - Movers		SD – 0.93	Mean - 4.26
Scale	Count	Percent	
2	1	2.08%	
3	8	16.67%	
4	12	25.00%	
5	27	56.25%	

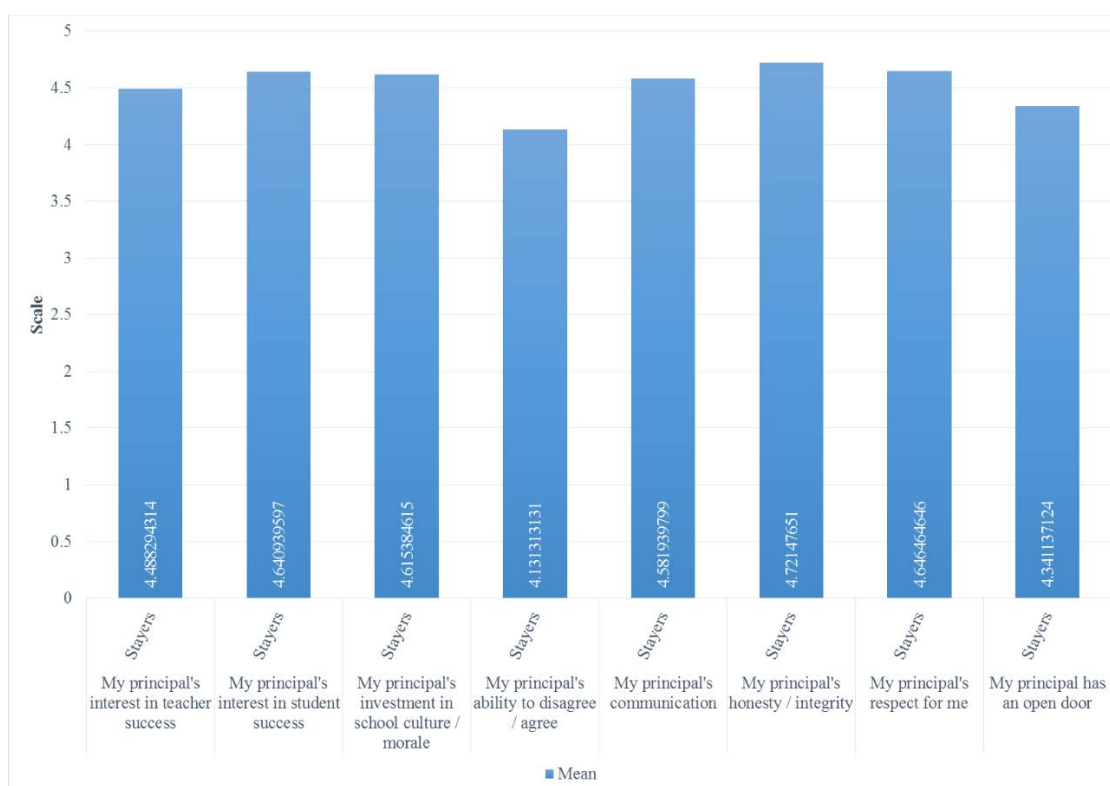


Figure 15. Mean attribution of importance for retention/attrition, principal's contribution – Stayers Sub Group

Within Figure 15 these data show only those factors with a mean attribution of importance of four or higher and a standard deviation of one or below. Again, in order to compare across all subgroups in the same manner, all factors with a mean above four are included. There were eight factors out of all factors included in the survey meeting these criteria across Stayer respondents. I have broken down each response by attribution of importance by number and percent by factor meeting these criteria in Table 19.

Table 19.

Factors with Mean Attribution of Importance of 4/5 or Higher – Stayers Sub Group

My principal's interest in teacher success - Stayers	SD – 0.76	Mean - 4.48
Scale	Count	Percent
1	1	0.42%
2	2	0.84%
3	17	7.11%
4	69	28.87%
5	150	62.76%

My principal's interest in student success - Stayers	SD – 0.66	Mean - 4.64
Scale	Count	Percent
1	1	0.42%
3	9	3.77%
4	59	24.69%
5	169	70.71%
(blank)	1	0.42%

My principal's investment in school culture / morale - Stayers	SD – 0.66	Mean - 4.61
Scale	Count	Percent
1	1	0.42%
3	12	5.02%
4	59	24.69%
5	167	69.87%

My principal's ability to disagree / agree - Stayers	SD – 0.90	Mean - 4.13
Scale	Count	Percent
1	3	1.26%
2	3	1.26%
3	41	17.15%
4	94	39.33%
5	97	40.59%
(blank)	1	0.00418

My principal's communication - Stayers	SD – 0.75	Mean - 4.58
Scale	Count	Percent
1	2	0.84%
3	18	7.53%

4	52	21.76%
5	167	69.87%

My principal's honesty / integrity - Stayers	SD – 0.61	Mean - 4.72
Scale	Count	Percent
1	1	0.42%
2	1	0.42%
3	6	2.51%
4	44	18.41%
5	187	78.24%

My principal's respect for me - Stayers	SD – 0.67	Mean - 4.64
Scale	Count	Percent
1	1	0.42%
2	2	0.84%
3	11	4.60%
4	48	20.08%
5	175	73.22%
(blank)	2	0.00837

My principal has an open door - Stayers	SD – 0.87	Mean - 4.34
Scale	Count	Percent
1	3	1.26%
2	4	1.67%
3	30	12.55%
4	69	28.87%
5	133	55.65%

Table 19 lists the factors that possessed a mean attribution of importance of 4/5 or higher within the sample.

According to the above data, the ways in which principals contribute to teacher decisions to leave or stay in their school, district, or profession are very similar but do vary by subgroup. Overall findings indicate that the reasons that teachers leave or stay in

general are related to a set of specific principal behaviors. Among all participants the highest mean attribution of importance in order of greatest to least are:

- My principal's honesty/integrity (77%)
- My principal's respect for me (72%)
- My principal's interest in student success (71%)
- My principal's investment in school culture/morale (69%)
- My principal's communication (69%)

It is important to note that of the nine principal's specific factors all but one, understanding of personal priorities (35%), had a mean attribution of importance above four out of five. Across all participants that gave a mean attribution of importance of five out of five:

- My principal's honesty/integrity (78%)
- My principal's respect for me (72%)
- My principal's interest in student success (70%)
- My principal's communication (69%)

Within the Leaver subgroup the main attribution of importance given to reasons for leaving their schools, in order from greatest to least, was:

- My principal's honesty/integrity (67%)
- My principal's interest in student success (58%)
- My principal's respect for me (58%)
- My principal's investment in school culture/morale (50%)

The reasons given for why teachers move from one school to another with regard to principals' specific behaviors, were:

- My principal's honesty/integrity (79%)
- My principal's respect for me (73%)
- My principal's interest in student success (75%)
- My principal's investment in school culture and morale (70%)
- My principal's interest in teacher success (60%)
- My principal has an open door (56%).

Across the Stayers sub-group, the reasons given for why teachers stay in their current schools, regarding principals' specific behaviors, by percentage were:

- My principal's honesty/integrity (78%)
- My principal's respect for me (73%)
- My principal's interest in student success (70%)
- My principal's interest in school culture and morale (70%)

Regression Instrument

Logistic regression was used to analyze the relationship between teacher and school variables on teacher attrition. In this case, the development of a logistic regression model was most appropriate because the predicted outcome, teacher retention, is a categorical variable. Logistic regression analysis was well suited for describing and testing relationships between a categorical outcome variable and one or more categorical or continuous predictors.

Analysis was repeated using categorical outcome variables:

- Movers-from school to another school in district
- Movers-from school to a school in another district
- Leavers from profession
 - Where “Leavers” and “Movers” were collapsed using a binary logistic regression analysis when exploring the differences within those relationships
- Stayers

As the purpose of building this statistical model was to explore rather than hypothesize, binary logistic regression was applied to the data, with likelihood-ratio change selected as the criterion. The assumptions of the logistic regression model are: the dependent variable is categorical, the data are not normally distributed where homoscedasticity is not assumed (i.e., the dependent and independent variables are not equal), and the data are ordinal or nominal and not in this case considered continuous. The dependent variable in this study was the teacher decision to remain within or outside the district or the profession, where leaving was also subdivided into categories as described above. This study examined independent variables, related to both personal and school characteristics. Each category was broken into levels of the variable. For example, the category of gender consists of two levels of the variable (e.g., male or female). According to the logistic regression model, a contrast group was selected for each of the categories. The contrast group was identified as the most frequently given response. The scale questions were also entered into the analysis at this time and those

responses were treated similarly to the demographic variables – independent predictive. In the presentation of Logistic Regression Models found in Appendix J, each independent variable is included in a separate regression. All regression models were generated utilizing Microsoft Excel, and specifically the Real Statistics Resource Pack add on. This software package contains various supplemental tools that enabled me to carry out a wide range of advanced statistical analyses without leaving the Excel environment. Real Statistics Resource Pack can do statistical analysis in Excel as a free statistics software, which extends Excel's built-in statistical capabilities to perform a wide variety of statistical analyses.

The Real Statistics Resource Pack provided the Logistic Regression supplemental data analysis tool. This tool takes as input a range, which lists the sample data followed by the number of occurrences of success and failure. For the purposes of this study coefficients were observed to help describe the size and direction of the relationship between a predictor and the response variable. Coefficients are the numbers by which the values of the term are multiplied in a regression equation. The coefficients helped to determine whether a change in a predictor variable made the event of becoming a Stayer or Leaver, more likely or less likely. The estimated coefficient for a predictor represents the change in the link function for each unit change in the predictor, while the other predictors in the model are held constant. The relationship between the coefficient and the probability depends on several aspects of the analysis, including the reference event for the response and the reference levels for each categorical predictor. Positive coefficients make the event more likely while negative coefficients make the event less

likely. An estimated coefficient near 0 implies that the effect of the predictor is small.

The summation of the coefficient findings is represented in table 20 below:

Table 20.

Binary Logistic Regression of Coefficients

Factor	Coefficient	Factor	Coefficient	Factor	Coefficient
5. Select the grades of the students you currently teach?	-0.38041	43. My principal has an open door	0.11782	26. School size	0.236233
21. Additional Responsibilities	-0.16863	20. Relationships with parents	0.120291	39. My principal's ability to disagree / agree	0.243362
8. What is the best description of your race?	-0.12358	27. Amount of time allotted for planning	0.127597	23. School Reputation *	0.253039
33. Discipline	-0.10417	40. My principal's communication	0.137337	2. How many total years have you worked as a teacher?	0.257189
7. Are you male or female?	-0.08719	19. Relationships with administration	0.151451	35. My principal's interest in teacher success	0.3041
11. Your principals knowledge/support of your professional goals	-0.08712	13. Leadership opportunities provided to you	0.160756	3. How many years have you worked in the district? *	0.33353
16. School culture / climate	-0.07299	42. My principal's respect for me	0.16356	32. Safety *	0.344995

28. Time/quality of professional development	0.030607	31. Amount / quality of mentoring	0.167704	29. Level of teacher autonomy in school-wide decisions *	0.376419
25. Student population / demographics	0.051514	41. My principal's honesty / integrity	0.17116	1. How many years have you worked as a teacher at your current (SY 2018-2019) school? *	0.398391
24. District reputation	0.062542	17. Students	0.1743	10. Personal work achievement *	0.403554
14. Principals knowledge / support of your needs	0.0935118	12. Working Conditions	0.181302	4. How many years have you worked with your current principal?	0.427252
22. Class size	0.100291	36. My principal's interest in student success	0.197841	30. Level of teacher autonomy in classroom decisions *	0.483641
37 My principal's understanding of my personal priorities	0.1143	6. What is the highest degree or level of school you have completed?	0.204842	18. Relationships with colleagues *	0.531048
		38. My principal's investment in school culture / morale	0.216491	15. Salary	0.62969

The binary logistic regression of coefficient values above shows that there are nine variables; shown with an asterisk, that when run through the procedure yielded an outcome of a p-value of .05 or less. The p-value for each variable was used to test the null hypothesis that the coefficient is equal to zero (which means no effect). A low p-value (< 0.05) indicates that the null hypothesis can be rejected. Hence, a variable that has a low p-value is likely to be a meaningful addition to the study because changes in the predictor's value are related to changes in the response variable. Conversely, a larger (insignificant) p-value suggests that changes in the predictor are not associated with changes in the response. These variables are displayed in order of greatest to least in statistical significance based on the sample study of predictability of choice as determined by trends found in survey question responses:

- Relationships with colleagues ($p=0.00048455$)
- Level of teacher autonomy in classroom decisions ($p=0.001219508$)
- Safety ($p=0.005555061$)
- Level of teacher autonomy in school-wide decisions ($p=0.008506051$)
- Personal work achievement ($p=0.01072458$)

In addition to p-value the predictive percent correct (where p-Pred is greater than failures, success is divided by total answered, and failure is divided by total answered) value was analyzed. For any observed values of the independent variables, when the predicted value of p-Pred is greater than or equal to .5 (viewed as predicting success) then the percent correct is equal to the value of the observed number of successes divided by the total number of observations (for those values of the independent variables). When p

< .5 (viewed as predicting failure) then the % correct is equal to the value of the observed number of successes divided by the total number of observations. These values are weighted by the number of observations of that type and then summed to provide the percent correct statistic for all the data. These data show the predictive significance in the sample study of the likely hood of becoming a Stayer.

Within this sample all variables scored a p-Pred value of .5 or higher at all scale levels, the following will displace the variables predicted at a .5 or less and the scale score of participant response:

- Salary (0.393036198) – scale 1
- Relationships with colleagues – (0.437820135) – scale 1
- Level of teacher autonomy in classroom decisions – (0.466204733) – scale 1

The variables that provided a predictability outcome of .5 or greater according to the regression analysis demonstrated that the participants who responded similarly within their subgroup of Stayers or Leavers; would become a Stayer or a Leaver. This binary logistic regression analysis was repeated using categorical outcome variables which collapsed the subgroup of Leavers; which included respondents, leaving from their school to another school in the district, from their school to a school in another district, and from the profession. The leaver results were then compared results to the results among Stayers.

Classification tables found in Appendix J show a comparison of the number of successes predicted by the logistic regression model compared to the number actually observed and similarly the number of failures predicted by the logistic regression model

compared to the number actually observed. In a Receiver Operating Characteristic (ROC) curve, also found in Appendix J, the true positive rate is plotted in function of the false positive rate for the various cut-off points. Each point on the ROC curve represents a pair corresponding to a particular decision threshold (Leavers, Stayers). A test with perfect discrimination will have a ROC curve that passes through the upper left corner. Therefore, the closer the ROC curve is to the upper left corner, the higher the overall accuracy of the test (Zweig & Campbell, 1993). The higher the ROC curve the better the fit. The closer ROC is to 1 (the maximum value) the better the fit, while values close to .5 show that the model's ability to discriminate between success and failure is due to chance.

Qualitative Interview Statistical Data Analysis and Findings

The process by which I analyzed my data included reviewing audio recordings, rereading interview notes, transcribing interviews, rereading interview transcriptions, organizing interview data into a matrix, identifying common themes of perceptions among data and developing conclusions based on previous literature and emerging themes. There were 18 participants invited to participate in follow-up interviews based on criteria of agreeing to participate at completion of survey and representing an even sampling of years of experience levels, school levels, and professional decision groups. There were 12 of those 18 (67%) who responded and agreed to participate. Of those agreeing participants, 42% were Stayers, 34% were Leavers and 25% were Movers; 42% taught in a middle school, 33% taught in an elementary school, and 25% taught in a high school.

Following the completion of all 12 interviews, the district office confirmed professional decisions of participants so as to ensure accurate representation. All of their data were able to be included. The process by which analysis began was that I listened again to all audio recordings, I re-read all data, and then I took the transcribed interview data and organized it into a matrix. The purpose of this was to facilitate the identification of common themes among participant responses more easily. Following composition of the matrix, I began to transform it into a categorical coding matrix (Maxwell 2013, p. 109). Using this procedure, I was able to identify the major themes through the categories. Following these initial data analyses procedures, I then organized both the data and themes as well as corresponding theme definitions into an adapted form of matrix illustrated below. Table 20 demonstrates the themes, definitions, sample responses and findings for each theme.

Table 21

Sample Teacher Responses to Open-Ended Interview Questions

Question	Plan Leavers: N = 4 Movers: N = 3 Stayers: N = 5	Theme	Definition	Sample Response	Findings
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What is your teaching philosophy?	Leavers	Respect	Esteem for or a sense of the worth or excellence of a person	Respect yourself and each other so my main thing is respect and then myself building rapport	Respect and relationships. All participants had strong opinions that related to these throughout statements of their teaching philosophy either directly or by the care of giving.
	Movers	Provide	To supply or equip	I believe that all students are learners and they can all be successful when you provide them tools necessary for them to get there.	
	Stayers	Building Relationships	Ability to identify and initiate working relationships and to develop and maintain them in a way that is of mutual benefit to both yourself and the other party	My teaching philosophy is building relationships with students and making sure that they're feeling comfortable and safe in the learning environment	
Tell me about your experience	Leavers	Distant	Reserved or aloof; not	Never had meetings,	Movers were the only

with the mentoring program in this district.			familiar or cordial	never had check-ins	participants that indicated they were at all pleased with their mentoring experience. Stayers and Leavers both had negative experiences overall. The need for building those types of relationships became apparent.
	Movers	Structured	Having and manifesting a clearly defined structure or organization	I really liked it. I liked how it was structured.	
	Stayers	Lacking	Missing something in quality	Works far better when you can develop a good relationship with your mentor-mentee	
How would you describe your current principal's leadership style?	Leavers	Micromanager	To manage or control with excessive attention to minor details	A micromanager likes to know and control everything	Stayers were the only participants that indicated examples that personified a principal with leader qualities. Leavers and Movers overall were
	Movers	Ineffective	Not producing results	The current leadership style is ineffective, unprofessional, and unethical. I think that it's a political game	

	Stayers	Leader	A person who has commanding authority or influence	Being caring and compassionate and checking in like not as an administrator but as a person who actually cares about you	dissatisfied with their current principal's leadership style and attributed it more to the managerial and ineffective.
If you have been in more than one school how would you describe similarities and differences in your principal's style? How did those affect your decisions to stay or leave?	Leavers	Support	Accept	More no-nonsense when it comes to students with a lot of behaviors that they need support	Leavers indicated that they desired more support, while movers and stayers tended to feel they were supported in their transition and belonging
	Movers	Welcoming	To meet, accept, or receive	An open door policy and was very welcoming even though was very serious and strict it was for the greater good	
	Stayers	Community	A unified body of individuals	Care about your life at home and know that you have a life outside of school	

How would you describe a supportive work environment?	Leavers	Trust	Reliance on the integrity, strength, ability, surety of a person	Where my supervisor would trust me enough to do what I'm supposed to do and be confident in my abilities but be there should I need assistance	Trends here indicate that all participants require community, trust and working together to complete tasks. In this case, building a supportive work environment will require the community at large to trust, collaborate, and feel supportive in nature.
	Movers	Together	Into or in relationship, association, business, or agreement	Everybody speaking the same common language to have a good understanding of this is our goal	
	Stayers	Supportive	Advocate	People are just really helpful and supportive and I don't know I guess they help you to feel like you're part of the team and I'm not really used to that in a lot of jobs I've been in	
How do you believe a collegial atmosphere	Leavers	Relationships; Trust	A connection, association	All about relationships and Trust and	Similar to participants' thoughts

throughout your school is created?			, or involvement; Reliance on the integrity, strength, ability, surety of a person	workplaces where I felt I had a good working relationship is when I felt like I had a relationship with those I had to work with I could depend upon them to have my back	on developing a supportive work environment, a collegial atmosphere is created through a community of trust and support.
	Movers	Equitable	Fairness, just and right; fair; reasonable	Equitable work experience for teachers Equitable time for teachers and their classrooms versus the amount of time that they have for planning	
	Stayers	Connections	A relation of personal intimacy	Getting to know people in the beginning of the year having a specific time or way that you get to know each other I think just the people	

				here are very willing to share ideas and resources	
Describe your current workload.	Leavers	Difficult	Not easily or readily done; requiring much labor, skill, or planning to be performed successfully; hard	Had some very tough years	At all levels dissatisfaction occurs when describing their current work load. Major difference with Stayers, who indicated that the challenges they faced with current workload were opportunities not hindrances.
	Movers	Overwhelming	Overpowering	Work load is overwhelming I am pulling all-nighters at least once a week to get things done I don't feel like I have the time to do a lot of extra things	
	Stayers	Challenging	Arousing competitive interest, thought, or action	Shows in my ability to be creative and do different things and not feel so tired	
Define teacher empowerment.	Leavers	Support	To undergo or endure, especially	Having the ability to do what needs to be done	At all levels, except Leavers,

			with patience	in the time frame that you have	individualization of power was indicated to be a key factor in terms of teacher empowerment. Leavers again indicated a need to feel supported
	Movers	Decision-making	The act or process of making choices	Teachers being able to be part of maybe provide feedback or be part of decision-making	
	Stayers	Autonomy	Self-directing freedom and especially moral independence	Letting the teachers know that they're valued that they're intelligent that they're capable of making decisions	
Was the school principal a part of your recruitment or interview process? What were your initial perceptions? Were they accurate?	Leavers	Not involved	Not involved	Not involved	The only participants that indicated school principal involvement were those choosing to stay.
	Movers	Not a part	Not a part	Not a part	
	Stayers	Was involved	Was involved	Was involved. I would say they were pretty accurate	
Describe your relationship with your building principal.	Leavers	Relationship	An emotional or other connection between people	Did respect me as a professional but did not know me as a person	Stayers and Movers had a very easy time generalizing their relationship
	Movers	Good	Satisfactorily in	Good. I think we	

			quality; quantity, or degree	learned to understand each other	p with their current principal.
	Stayers	Genuine	Actually having the reputed or apparent qualities or character	Genuinely a personable person takes an interest in people and tries to learn	Leavers on the other hand, felt passionate ly that their relationshi p with their current principal was lacking and required more in the way of a relationshi p in general – more than profession al
Describe your relationship with your colleagues.	Leavers	Limited	Restricted	Very limited totally professional	Stayers had the best relationshi p with their colleagues
	Movers	Pretty good	Well enough	Classroom teacher colleagues is really what is really good relationship with support staff	. Movers indicated that their relationshi ps with colleagues were

				members is not good	neither positive nor negative. Leavers felt colleague relationships were limited.
	Stayers	Team	A number of persons associated together in work or activity	Very supportive I usually talk to somebody every day I think I have a good relationship with them all	
Describe your relationship with your students.	Leavers	Expectations	The degree of probability that something will occur	I have these expectations upheld till the last day of school like you know me I have high expectations	Stayers and Movers indicated with high esteem when asked about their relationships with their students. In contrast, Leavers generalized those relationships as being able to be improved with student discipline practices.
	Movers	Great	Unusual or considerable in degree, power, intensity	Relationship with my students is great they're the best part of my job they're the only reason I probably haven't even quit this year	
	Stayers	Mentor	A trusted counselor or guide	I love finding out about my students I mean I think that's also key to good	

				teaching is just finding out about them the more you ask about them or they tell you the more you can relate to that and figure things out	
What do you consider to be some of your schools and this district's strengths and weaknesses?	Leavers	Inconsistent	Lacking agreement	I think we jump on the wagon so fast that I don't think all the research and stuff gets done wholeheartedly before we go let's try something else	Leavers described the district's strengths and weaknesses as erratic – further highlighting their dissatisfactions and why they have chosen to leave. Movers and Stayers described more community factors that lend towards fostering growth in
	Movers	Communication	The imparting or interchange of thoughts, opinions, or information by speech, writing, or signs	I feel like just as soon as you have open communication I think everything else will be fixed	

	Stayers	Culture	The set of shared attitudes, values, goals, and practices that characterizes an institution or organization	I can tell that it's encouraged to work together to do the best we can for the Student Success that everybody is very focused on that and getting and building relationships among each other	both strengths and weaknesses of their district.
Based upon your own perceptions, what factors do you believe keep teachers or cause them to leave?	Leavers	Struggles	To contend resolutely with a task, problem	Not feeling supported not having a relationship with administrators not feeling like they have a relationship with students feeling as though all of their struggles are for no reason they're not whether it's discipline issues or their students aren't	Stayers believe that building relations will work best in keeping teachers in the profession . Movers want more of a consistent atmosphere in which to strive and grow their craft. Leavers indicated that if teachers were set

				making progress	up to face fewer challenges they would be more apt to stay within the profession .
	Movers	Consistency	Steadfast adherence to the same principles, course, form	Take teachers into consideration when making decisions are just making them part of the building but I think you can cause them to leave if the teachers do not feel supported	
	Stayers	Relationships	A state of affairs existing between those having relations or dealings	Probably be that they don't feel like they have enough support so it's also what keeps you I think especially new teachers come in and they're completely overwhelmed	
What role did your building principal have in your	Leavers	None	None	My final decision is not with my building principal.	Leavers indicated that their building principal

decision to stay or leave?				Although, they could have asked me to stay.	had nothing to do with their decisions, but rather stated that the overall experience was the reason. However, most returned to this with some degree of wishing their principal had acted or reacted differently . Movers indicated that their current principal was the main reason for their move. Stayers touched on another good community building practice.
	Movers	Was the main reason	Was the main reason	Was the main reason	
	Stayers	Feeling Supported	To keep from fainting, yielding, or losing courage : COMFORT To keep (something) going	I feel supported like I'm really excited about my current content area that I teach because I feel like it's a program that I can really build and expand and be creative and try new things and it's nice to work in a building where my principal like supports new ideas	
What actions can principals take to retain teachers?	Leavers	Relationships	An emotional or other connection	Building rapport with the teachers like	Leavers and Stayers indicated

			between people	knowing their names; like know your teachers	that if principals took time to build genuine relationships with their teachers, they would retain them. Movers touched on the community at large in terms of cultivating the larger community.
	Movers	Culture	Cultivate	School culture I think that's something that we try to do a lot for the students	
	Stayers	Relationships	An emotional or other connection between people	Building that relationship with each of the teachers that they're working with and kind of checking in on them from time to time	
Tell me about a time you felt supported by your principal and a time you didn't feel supported by your principal.	Leavers	Values	To consider with respect to worth, excellence, usefulness, or importance	Values my opinion like she wants to hear what I have to say; comes see how I teach	Leavers and Stayers indicated that respect of their values was a factor in them feeling supported or not supported. Movers indicated
	Movers	Lacking	Deficient	Assistant principal and principal go against each other	

	Stayers	Values	To consider with respect to worth, excellence, usefulness, or importance	My principal takes the time to just respond quickly and because it shows me that they value my needs and that what's important to me is also important to them?	that the lack of feeling such support helped to determine their decision to move. All spoke about different aspects of strong or strained relationships within their school community.
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Below I outline the most prominent and major themes across all interview data and participants. I then break this down into subthemes or categories upon further analysis and inspection of the data across all participants. I then analyze the data by individual participant subgroups to identify the themes and factors most commonly cited by each subgroup of Mover, Leaver, or Stayer.

The most prominent theme emerging across all participant groups was that of a supportive school culture. When asked what one factor was the most important in their professional decision (leave, move, stay), support was an area mentioned throughout all participant's responses to varying degrees and forms. Interview Participant 2 stated "I

decided to do it if I wanted a more supportive environment”. Also, a major theme that emerged across all participants was that of relationships. “It's all about relationships and Trust” (Participant 10). Across all sub groups, at one point or another throughout their interview, they mentioned relationships, be that effective or ineffective relationships with principals or colleagues, or those with students. Another very common theme across all participant responses was that of respect, again whether it was touched upon in discussion of lack of or existing, almost all participants mentioned respect as a factor at one point or another throughout their interview.

Following the initial theme identification, further analysis of interview transcripts and notes within these themes through utilization of my categorical coding matrix allowed for identification of the following high importance factors among all participants. These factors are as follows: feeling respected and feeling valued, “they feel they can be heard, feel that they are valued” (Participant 12), teacher autonomy in classroom decisions “A supportive work environment is one where my supervisor trusts me enough to do what I'm supposed to and be confident in my abilities but be there should I need assistance” (Participant 11), community of support for both teachers and students, A positive school culture. This was an area consistently of high importance but interviews added additional clarity. Participant 12 stated “I do believe that a collegial atmosphere is a result of leadership, a lot of it trickles down and the effort that leadership makes and signals they give to their staff not just verbally but how they are [a] role model”. These themes and categories directly align to the quantitative data outlined above, which will be described in further detail later in this chapter.

Across all leaver respondents, the lack of trust or support most commonly defined as degree of involvement by/with administration was the most common theme across individual respondent interviews as a whole as well as across all participant interviews within that sub group. “A supportive work environment is when there’s leadership that helps to empower teachers so they feel supported” (Participant 9). Another aspect of this trust was the degree to which leadership could be trusted and dependable. Participant 11 described the leadership style as “Inconsistent I think is the best word, and not enough follow through”. Lastly, that support through involvement was more commonly cited by secondary teachers than elementary as a degree of relationship and connection or absence thereof. “I don’t think they even knew who I was to be quite honest” (Participant 2).

Across and within all participant responses for movers, the most common theme was also that of support but participant responses for this sub group mostly focused on support, more frequently defined as investment by administration in building the school community, investment in teacher or student success, “be there for you, want you to grow and develop” (Participant 11) Also, there was often a mention of varying degrees of investments in relationships. Participant 6 stated “it’s all about relationships and Trust”.

The most common theme within and across stayer participant interviews was that of relationships. The “foundation of my teaching philosophy is building relationships” (Participant 3). This was mentioned by every participant as one of the most important factors in their staying in their school. Having a principal who knows “more than just what you’re doing in the class, but knows kind of who you are” (Participant 10). The responses varied between the most important relationships being with students,

colleagues, or administration, but all mentioned this as a significant factor in their rationale for remaining within their school. Participant 10 said my principal is “serious about making wonderful relationships with staff and students”. Additionally, all participants mentioned how these relationships impacted their school culture and overall staff morale.

Data Triangulation/Integration of Findings

Below is a discussion and illustration of data and findings across all measures utilized within this mixed methods study; specifically, survey instrument, regression analysis and interview. Table 21 organizes all factors with a high attribution of importance or significance across all methods/measures. This form of data presentation also serves as a means of additional analysis and triangulation of data between all methods. Following this table of data presentation is a discussion of findings to include correlations identified between measures as well as outliers.

Table 22

Data Triangulation

Factors	All - Survey	All - Interview	Leavers - Survey	Leavers - Interview	Movers - Survey	Movers - Interview	Stayers - Survey	Stayers - Interview	Regression Stayers - pPred	Regression Leavers - pPred
Personal Work Achievement	84%	77%	75%	75%	73%	77%	86%	80%	70%	30%
Working Conditions	78%	89%	75%	100%	69%	67%	80%	100%	71%	39%
School culture / climate	83%	94%	84%	100%	84%	97%	81%	90%	81%	19%
Students (e.g., relationships, behavior, differentiation/needs)	81%	93%	91%	100%	77%	100%	81%	80%	76%	24%
Relationships with Colleagues	81%	82%	41%	100%	71%	67%	85%	80%	67%	33%
Level of teacher autonomy in classroom decisions	84%	82%	67%	70%	76%	84%	87%	90%	68%	32%
My principal's interest in teacher success	89%	74%	67%	75%	87%	77%	92%	100%	71%	29%
My principal's interest in student success	95%	97%	83%	95%	94%	77%	96%	90%	76%	24%

My principal's investment in school culture / morale	94%	100%	92%	100%	92%	100%	95%	100%	75%	27%
My principal's ability to disagree / agree	77%	61%	42%	50%	77%	64%	80%	70%	75%	25%
My principal's communication	91%	73%	92%	79%	92%	84%	92%	80%	76%	24%
My principal's honesty / integrity	96%	100%	92%	100%	92%	100%	96%	100%	75%	25%
My principal's respect for me	92%	96%	75%	90%	96%	100%	93%	90%	76%	24%
My principal has an open door	84%	26%	83%	25%	81%	34%	85%	20%	77%	23%
Discipline	74%	52%	92%	50%	77%	57%	73%	40%	81%	19%
Principal's knowledge / support of your needs	77%	100%	58%	100%	81%	100%	79%	100%	78%	22%
Salary	76%	15%	41%	25%	58%	0%	81%	20%	67%	33%
Safety	72%	57%	66%	50%	63%	60%	74%	50%	73%	27%

Though the triangulation process it appeared that the qualitative data not only supported and helped to explain the quantitative data, in most cases, they were also in alignment. To more fully triangulate the findings, I further examined their alignment and identified outliers in the data that may need additional explanation. When further examining the data and findings in a side-by-side manner in addition to other measures described, this process of assigning percent attribution of importance or predictability in attribution of importance, qualitative and quantitative findings were consistent with one another by aggregated and subgroup results.

The overall findings in correlating and comparing data indicated that the following factors had a qualitative and quantitative attribution of importance of over 75% (subgroups not meeting this threshold are noted) and those also identified through regression in bold:

- **School Culture and Climate**
- **Personal Work Achievement**
- Working Conditions (all except Movers)
- **Students**
- Relationships with Colleagues (all except Leavers)
- **Level of Teacher Autonomy in Classroom Decisions** (all except Leavers)
- **Principal Investment in Student Success**
- Principal Interest in Teacher Success (all except Leavers)
- **Principal's Communication**
- **Principal's Honesty/Integrity**

- **Principal's Respect for Me**
- **Principal's Knowledge/Support of My Needs** (all except Leavers)

The most significant outlier in the data when comparing findings was that of relationships with colleagues among leavers. Upon further examination, the interview data supported that this was an area not highly rated in the survey but was mentioned in 100% of interviews as an area of weakness, as these leavers reported weak relationships with colleagues, or tensions or absence of relationships. Other factors with similar discrepant findings were:

- My principal has an open door
- Salary
- Safety

These were not among top findings in attribution of importance; however, there is a discrepancy between the quantitative results and what was shared and discussed in the interviews. These areas were all discussed by interview participants less than 50% of the time, but were given an approximate average attribution of importance of 75%. In reviewing transcripts again for outliers, the only area that could be inferred within the context of the data would be that of; My principal has an open door. Although responses to scales gauging importance, an average of 75% was attributed but in some areas these factors of salary and safety were never mentioned in follow up interviews as areas of impact. Additionally, deeper findings that could be identified as impactful and meaningful through the triangulation process that are significant for both researcher and

practitioner through this design and methods are that across all participants, 41% stated their principal was a part of their initial recruitment/ interview process, while only 15% of Leavers and 0% of Movers, but 80% of Stayers stated their principal *was* a part of their initial recruitment/ interview process. In direct connection to the relationship need cited, as well as the respect and investment themes across all participant groups in both the quantitative and qualitative data, I believed this to be a powerful incidental finding.

Among the different forms of data, relationships were mentioned frequently (or, appeared to be important) but in comparing data, through follow up interviews and analysis, an association between attrition and relationship by school level was identified. Elementary teachers described having more of a relationship with their principal, whereas secondary teachers most often cited no relationship at all. A comparative analysis of the quantitative data originally collected from the district revealed that the elementary participant subgroup had a higher teacher retention rate (83%) than the secondary participants (75%).

When asked what role their building principal played in their professional decision, 92% of stayers confirmed impact, whereas, 83% of Leavers and Movers stated direct impact. However, follow up statements were made by Leavers and Movers such as "...could have pretended to be interested in keeping me but they didn't even pretend" (Interview participant 5). Participant 3 stated "...didn't ask me to stay and that just solidified the decision, just said thank you for letting me know". These responses alluded to the fact that not feeling valued and questioning whether or not to persist when met with a less than supportive response, their decision is solidified or swayed to leave or move.

The quantitative data indicated that relationships with colleagues and a collegial atmosphere were areas of high impact. Upon further evaluation, through follow up interviews as well as qualitative data analysis, 100% of respondents mentioned some degree of administrative impact on the way in which a collegial atmosphere is created and 36% cited strong positive collegial relationships. Among leaver participants, only 20% cited strong positive collegial relationship; compared 25% of Mover participants, and 67% of Stayer participants. Additionally, among teachers stating they had a relationship with their principal, their retention rate was 12% higher. Drawing upon these data, one could surmise that a collegial school culture created by administration could lead to stronger relationships with colleagues and subsequently lower attrition rates.

Chapter Five – Discussion

This chapter will provide a summary of the study divided into several sections. These sections include a brief review of the literature, the purpose of the study, the research design, and data collection methods. Findings of the study presented in chapter 4 and conclusions about teachers' intentions and their significance were expressed based on the research. In the conclusion of this dissertation, I have included implications of the findings to further help stakeholder groups recognize the importance of factors that may influence a teacher's decision to stay, leave or move and recommendations for future research.

Review of Literature

Recently teacher retention has become a national topic of discussion. This issue has been compounded by shortages within the education profession. The issue of teacher attrition has been an on-going crisis in education for years. However, it only recently become a topic of major focus. Attrition is a significant problem that schools across the United States face. Such as high need schools; which spend much of their needed financial, human, and other resources on recruitment and training efforts. With a large percentage of teachers leaving, this adds to the critical shortage schools are facing in finding candidates to fill these vacancies. Historical context as well as previous research sheds some light on this issue and suggests that the relationship between teachers and

principals is complex and can be linked to teacher retention decisions. Given the need to retain high-quality teachers, and the influence that administration can have on these decisions, it is essential this be acknowledged and addressed in education.

Among the most often cited reason why teachers decide to leave the profession are the lack of collegial and administrative support, teacher preparation, instructional materials, teacher autonomy, and influence over decision-making. These factors fall into two camps of thought related to explaining reasons for attrition. One camp attributes attrition to individual teacher characteristics and the other camp attributes attrition to factors beyond individual characteristics and the control of teachers that exert an impact on teachers. Based on previous and this current research, many of these factors are within the realm of administrative influence, in that these influences of school administration consist of supporting teachers. The concept of professional burnout is defined as a condition of bodily and mental exhaustion creating a negative sense of self-worth (Gold, 1984; Maslach, 1982). Conditions leading to this for teachers can range from excessive paperwork and lack of administrative support, to role conflict and unclear expectations (Anhorn, 2008; Schlichte, 2005).

The research literature on teacher attrition that focuses on factors of both the internal and external individual characteristics of those that choose to leave the profession looks at teacher characteristics such as certification, age, and emotional or mental characteristics (Ingersoll, 2001; Strunk & Robinson, 2006). Additionally, research into school climate has shown a link between school climate and teacher retention and attrition decisions (Angelle, 2006). A positive school climate is imperative for teacher

retention, and it is the school principal that communicates the school core values and teachers that reinforce such values in the school community (Deal & Peterson, 2016). The research supports that culture and climate influence the emotional and psychological atmosphere of a school (Tschannen-Moran, 2014) and the emotional and psychological well-being of teachers leads to their decisions of whether to stay or leave their current school. Furthermore, research suggests that these attrition challenges faced today could be attributed to the tensions between the principal and the teacher over the years and the principal's trial to effectively manage the stark divide in their dual role of teacher of teachers as well as supervisor and manager. Principals must support their teachers and address these retention issues, but their role also needs to remain as the job description dictates. This responsibility places the principal in a difficult position, but also one poised to enact meaningful change.

Summary

The purpose of this study was to determine the factors that contribute to teacher decision to leave, move, or stay in schools and whether and what relationships exist among administrative support and teacher attrition.

Research design. A mixed methods approach was utilized in this study. The Sequential Explanatory Design (Ivankova, Creswell, & Stick, 2006) specifically, which combines survey data and interviews, through initial data collection of district-wide survey and subsequent follow up interviews with survey participants. The implementation of this design was applied in a U.S. diverse school district with high administrative and teacher turnover and mobility. It examined teachers' perceptions of

the extent to which school administration affects retention decisions. Survey data related to general information and perceptions of support and culture were collected from all full-time teachers in the 2018-2019 academic year via an online survey platform and distributed via district email for authentication and security. There were several themes extracted from survey responses. These were utilized to cross check interview questions for relevance and importance. Interview candidates were then purposefully selected from the participating cohort of teachers selected to be a representative sampling of varying school and experience levels as well as professional intentions for the following school year.

I focused on the perceptions of teachers who have left the profession, those who left their school district for another, those who left their school for another school within in the same district, as well as those who stayed within the same school and in the same district. Through the lens of the impact of administrative support, I then analyzed the responses to the following questions that were explored and answered within the study:

1. What are the reasons teachers leave or stay in their school, their school district, or profession?
2. In what ways do principals contribute to teacher decisions to leave or stay in their school, district, and profession?

The participants in the study consisted of individuals from one school district to include elementary (grades preK-4), middle (grades 5-8) and high school (grades 9-12) levels, with varying years of teaching experience (1-3, 4-10, 11-19, 20+ years), varying professional decisions for the upcoming year (Stay, Move, Leave), and those with both

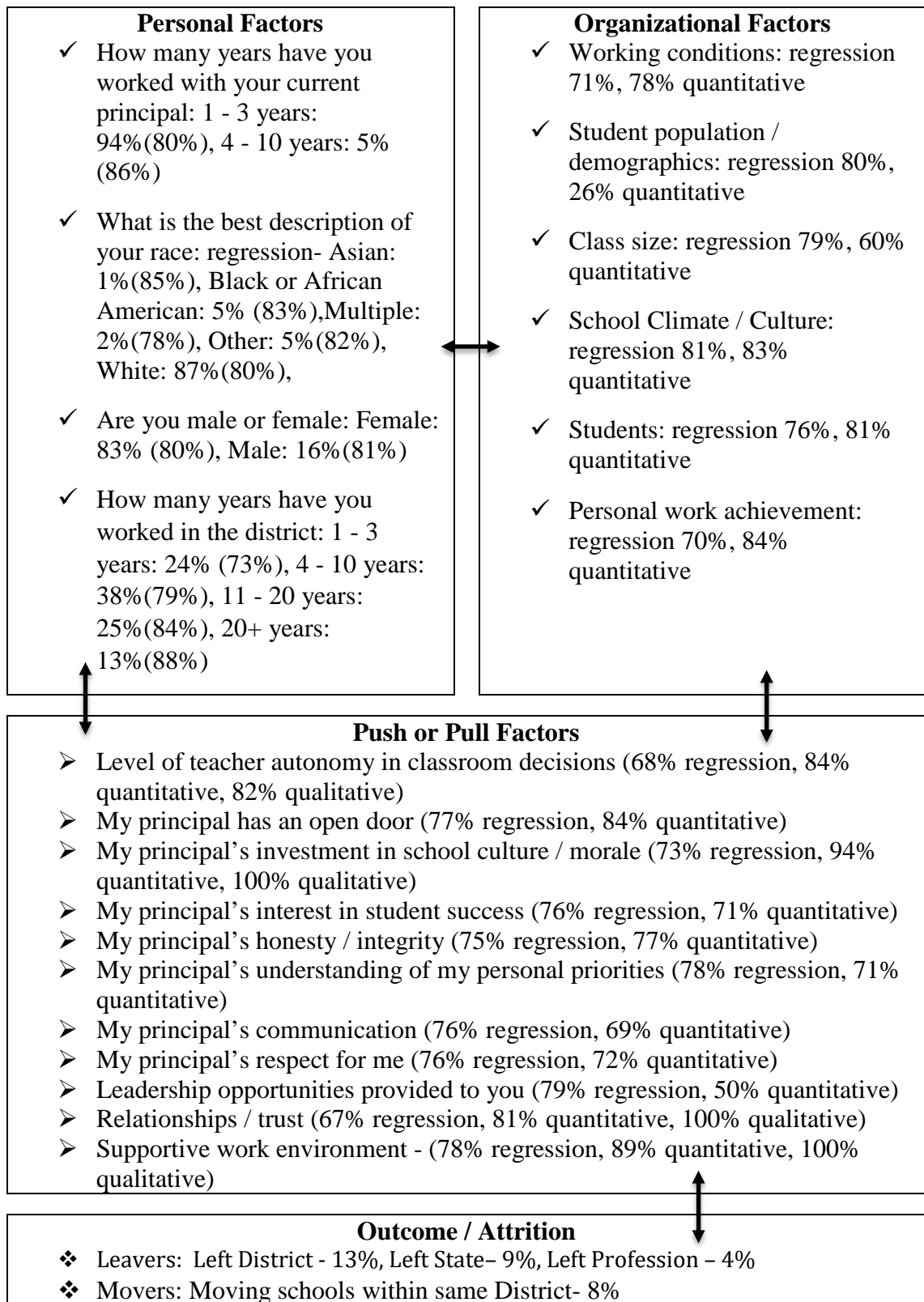
veteran and beginning principals. Following data collection, systematic analysis of the survey and interview data provided insight into the effect of administration on building the culture and the reasons teachers leave or stay in their school, district, or profession as well as the ways in which principals contribute to these decisions of retention and attrition.

Data collection. A survey was created that was comprised of 41 questions. The questions were broken down as follows: nine demographic questions, twenty-three organizational factor questions, and nine principal specific factor questions. The survey beyond the internal factors / demographic questions utilized a five-point scale (from 1 = not at all important to 5 = extremely important) to allow the researcher to better understand the respondents' attributions of importance. The higher the mean, the more the participants agreed with each of the statements. Conversely, the lower the mean, the more the participants disagreed with each of the statements. Survey questions were focused on factors previously identified by research literature as contributing to attrition decisions. Once surveys were completed, the responses were compiled and common themes were identified in order to better inform the interview questions. Interview participants were purposefully selected to include a best fit minimum of 4 elementary, 4 middle, and 4 high school teachers with at least one from each group of Stayers, Movers and Leavers. Following data collection, systematic analysis of the survey and interview data provided insight into the effect of administration on building the culture and the reasons teachers leave or stay in their school, district, or profession as well as the ways in which principals contribute to these decisions of retention and attrition.

Conclusion

Teacher attrition impacts every area of a school from fiscal, to culture and climate, to student achievement. Amid high turnover and a nationwide teacher shortage, knowing what factors contribute to a teachers' decision to leave and stay could alleviate the continuous challenge of staffing and retaining teachers in schools. Theobald and Michael (2002) asserted that lack of teacher consistency disrupts the stability, continuity, and cohesion of instruction, and as a result, adversely impacts student performance.

With additional exploration and analysis, a more in depth understanding of the factors contributing to decisions for leaving, moving, or staying in school, district or profession, and of the contributing factors was obtained. Identified through district-level survey and purposeful sampling interview, what, specifically, the role that the building principal played regarding teacher decisions was discovered. Figure 16 illustrates key findings and the paragraphs that follow are a summation of the answers identified through this research, referring back through comparison to the attrition factors identified in Chapter 2 by the previous research literature.



❖ Stayers: Staying at same school within same District- 79%

Figure 16. Teacher attrition factors based off study (N=300) Qualitative=% of interview participants who noted that construct, Quantitative=% of survey participants who gave a mean attribution of importance of 4/5 or higher, Regression=% estimates predicted for stayers

In Figure 16 the findings from the data indicate that the factors that all teachers found to be of the highest importance to their retention and or attrition were those on which the school principal or school leadership could have an impact. For personal, organizational, and push or pull factors data has been made available to show at which percentage a factor performed based off of each method utilized during this study. When personal factors are listed the percent is the number of participants meeting that personal criteria and regression is listed in parentheses following, which is the regression value that indicates overall p-Pred, or predicted probability, of Stayers broken down for each. For organizational and push or pull factors listed are percentage of respondents indicating an attribution of importance of 4 or more and regression value represents the predictive value or predicted probability of being a Stayer based on this factor. When quantitative is listed, percentage of respondents indicating an attribution of importance of 4 or higher are listed. When qualitative is listed, the average rate of respondents referencing this factor during interview are listed. For example, for the factor Supportive work environment – Regression estimates predicted 78% of teachers would stay based on this factor, 89% of respondents indicated an attribution of importance of 4 or 5 out of 5 on survey, and 100% of interview participants who noted that factor.

The way that these were identified were taking the aggregate of all teacher respondents from the entire district regardless of school level, years of experience, and professional decision to stay move or leave and identifying those having a mean attribution of importance of four out of five and a standard deviation of one or less. The differences by subgroup (Leaver, Mover, and Stayer) were identified separately by all those factors having a mean of four out of five or higher. Upon evaluating these data, I found it promising that these factors at least to some degree can be within the realm of principal control or impact. Through qualitative interview and analysis, I was able to dig deeper into these significant factors and understand more deeply the teacher perceptions and perspectives behind the survey response data.

Across all participant groups the factors found by analysis of the survey data to have the highest attribution of importance were identified by highest overall mean, lowest overall standard deviation, and highest percentage of respondents giving attribution of importance of the maximum five out of five. The identified factors were: school culture/morale, level of teacher autonomy, personal work achievement, students, working conditions, and relationships. Across all participants the principal behaviors with the highest attribution of importance with regard to overall mean, lowest standard deviation, and percentage with five out of five attribution of importance were as follows: principal's honesty and integrity, respect for me, investment in student success, investment in school culture and morale, and communication.

Findings from the regression analysis indicate that more time together with their school community and in teaching as well as with their principal matters. Outlined in

Figure 16, through personal factors, the longer teachers stay the more likely they are to stay even further. This could potentially be linked back to the connections made and relationships built as years of experience, years in school, years in District and years with Principal all have impact. Teachers were more likely to stay the more years of experience that they had, approximately every 3 years in teaching their likelihood to stay increases around 5%. Similarly, the more years of experience with their principal made them 6% more likely with 4-10 years than 1-3.

Among both Leaver and Mover subgroups, the top three factors with the highest attribution of importance were school culture and climate, discipline, and students. Findings were similar in the Stayer subgroup, but the top three consisted of school culture and climate, students, level of autonomy in classroom decisions and personal work achievement. Among all subgroups, those principal specific factors or behaviors that have the highest attribution of importance across mean, standard deviation, and given a five out of five percentage attribution of importance were my principal's honesty and integrity, my principal's investment in school culture/morale, my principal's interest in student success, and my principal's respect for me.

In participant interviews and getting a more in-depth understanding of the quantitative survey data, the greatest themes across all participant responses were that of relationships, respect, and culture/community. This was consistent across all subgroups; however, the Movers and Leavers were more interested in support in the areas of principal investment and principal involvement, and among Stayers the most common was positive relationships.

To increase teacher retention, school administration, specifically principals, should place school culture and relationships at the center of their work. Interviews revealed no strongest predictor of attrition but rather a focus on relationships and building culture and community appeared to be the strongest predictors of teacher retention. Participants mentioned relationships in all aspects of their responses, and relationships in the manner of an involved and invested presence, listening to their needs, and following through with support. Support was a common and major theme throughout, mentioned when speaking about investment in culture/morale, student success, teacher growth and autonomy as well as just general involvement. This was most often defined as valuing input and needs, common vision, trust and respect. Throughout all areas, trust and respect were also common themes. Several teachers did mention that principals having a knowledge of them as a person was important to them. In a profession where students are the center and teachers are encouraged to build relationships with their students, it clear, according to these data, that teachers value a school administration that builds relationships with them as well. Examples include interview discussions of “we do so much for culture for students, but not always teachers” (Interview Participant #12, 2019). Additional aspects of this relationship building mentioned were trust, fairness and consistency.

The way in which a school is managed is a key aspect of working conditions that predict a teacher’s likelihood of retention (Brown & Wynn 2009; Johnson & Birkeland 2003; Ladd 2011; Stockard & Lehman 2004; Tickle, Chang, & Kim 2011). Furthermore, according to Boyd (2011) and Grissom (2011) the performance of the principal may be

the most significant predictor of whether a teacher chooses to remain in a school. Effective leadership or management is especially important for alleviating mobility (Kukla- Acevdeo 2009; Johnson & Birkeland 2003). Effective principal leadership can include shared vision, trust, and quality of decision making, among other dimensions, but support for teachers is a very important component (Borman and Dowling 2008; Ingersoll 2001; Johnson, Kraft, & Papay 2012; Chang & Kim 2011). These conclusions were supported directly through findings that even when teachers did not directly identify their principal as important to their decision to stay or leave, their all school responses aligned with the above-mentioned characteristics and values. Many participants mentioned behaviors that their school leaders expect of them that they viewed that their leader either did or did not also conduct themselves accordingly. Teachers were proud of or bothered by the fact that their school principal was asking them to behave in a way that they felt was contradictory to their own behavior.

Implications for Action

Principals and school leaders can influence an increase of teacher retention by implementing strategies to build relationships, and culture/community, and trust/respect at all stakeholder levels. Fullan (2008) argued that a school principal directly affects the school culture in a positive or negative way. Through building trust and respect, school leaders will not only help teachers feel more supported as professionals and individuals but will also exemplify trust and respect. These values would ideally be reciprocated within classrooms by setting a school tone of relationship building; which according to Tschannen-Moran and Gareis (2015), is a key component in a positive school climate.

Elfers et al. (2006) found that in order to understand how to best support teachers' work, the information should be gathered directly from the teachers. According to Deal and Kennedy (1982), school culture consists of shared values that closely join together a community. If the school community is not sharing beliefs and values, then the school is ineffective because different groups likely have different agendas/goals. It is incredibly important for school principals to work with all their staff members in order to develop a shared mission and vision and beliefs. In addition, it is imperative that after developing these that they clearly tie them back to all the important work to do and that is being done. The shared mission and vision of the school needs to be at the center of the community. It is also of the utmost importance that the principal create and maintain trust and relationships throughout the school community.

There are several ways that principals can maintain this effective leadership and a school culture to retain high performing teachers. They can achieve this on an ongoing basis by being steady and intentional, collaborating with and connecting others in and with the process, being an instructional leader, providing personal observations and timely feedback and hiring teachers who support the vision. Participant 6 summarized this well in their statement "I definitely feel it [culture] is a top-down thing, a lot of times how the principal treats the teachers is how a teacher treats teachers and students". Teachers want to feel that they are making a difference and that they belong in their school community. A key piece of supporting teachers in this is allowing them to be heard and know that their input and feedback are being considered. Principals and school leaders expect teachers to build this sense of community and belonging in their

classrooms in order to support student achievement, and in turn, teachers want to feel connected as well. By creating a community of trust, shared decision making, and a common vision, principals can foster effective relationships and increase retention and school culture. MacNeil, Prater and Busch (2009) stated that “strong school cultures have better motivated teachers” and successful leaders “focus on improving the school’s culture by getting relationships right between themselves, their teachers, students and parents” (p. 78). Successful schools often have a common professional language, communal stories of success, extensive opportunities for quality professional development, and ceremonies that celebrate improvement, collaboration, and learning (Peterson & Deal, 2002).

Among all participants, only 41% of principals were a part of the recruitment/interview process; 15% for Leavers, 0% for Movers, but 80% for Stayers. This alone is a powerful piece of data but in combination with data supporting teachers need to feel valued and respected, this could possibly be a step of impact for Principals to prioritize among busy schedules. Additionally, among teachers stating they had a relationship with their principal, their retention rate was 12% higher. Knowledge on a personal level was never indicated, but many aspects of valuing teachers as both professionals and people and respecting their life outside of work was mentioned.

Principals were cited as having a direct impact on professional decisions to leave, move, or stay in schools an average of 88%, but the impact went to almost 93% among those making the decision to stay in their current school. Among those leaving their current school, only 83% stated impact of the principal but throughout the interview

progression made statements about principal reaction in discussing potentially leaving that indicated their principal did not validate their feelings or worth and “that just solidified what was to be” (Participant 3). These findings that almost 9 out of every 10 teachers state principals have a direct impact on their decisions combined with that 100% of teachers believe principals impact how a collegial atmosphere is created shows that an investment in school culture/morale is a worthy investment in retention efforts.

Additionally, in efforts to create a positive and supportive school culture, which teachers perceive to be and research supports, is created by the principal, a critical place to focus would be collaboration and collegial efforts. To support this assertion, only 2 out of 10 teachers leaving their schools cited positive collegial relationships, compared with 7 out of 10 staying in their schools. As stated by participant 7, “education can be a pretty isolating profession”.

Future Research

Future research could explore the recruiting and retaining practices for urban school districts around these factors. Additionally, the current school administration could also be interviewed to allow correlations to be made between teacher and administrative perceptions on these factors. The information that I have provided in this study provides scholars and practitioners valuable insight into key factors that could potentially increase teacher retention within schools. Future researchers could expand the study across multiple districts and states to further make comparisons based on various geographic locations. A larger sample size would make the research easier to generalize. Additional qualitative case studies could be conducted to delve even deeper into teachers’

reasoning behind their intentions. The information gathered from this deeper dive would provide school administrators a more informed lens from which to reflect on their practices. In addition, research exploring a selected key factor as identified through this study; such as school culture specifically, would provide a more in-depth view of what can contribute to help increase teachers being retained in their districts. Also, further research could explore more specific retention groups, such as Movers. This data subgroup was not tracked in this study, thus findings were limited in that regard. Additional areas for continued exploration include that of a study with differentiated number of years with current principal as this district consisted of 95% of participants having three years or fewer with their current principal and 5% with 4-10 years. This would allow for more generalizable results as well as possible research into exploration of the impact that principal turn over can have on teacher turn over.

Appendix A

Teacher Informed Consent Form

Teacher Attrition: A Leadership issue

TEACHER INFORMED CONSENT FORM

RESEARCH PROCEDURES

This research is being conducted to evaluate the contributing factors to the attrition or persistence of teachers in education. If you give permission to participate, your responses, including both your actions and words during interviews (45 minutes to an hour in duration), and written survey communications (5-10 minutes in duration), will be documented. Your responses to interview questions will also be recorded and transcribed.

RISKS

There are no foreseeable risks for participating in this research.

BENEFITS

There are no direct benefits to you as a participant. However, this research is intended to provide a better understanding of possibilities and opportunities to support and retain teachers in education. Future improvements to educational programs and policies may also be derived from the results of this study.

CONFIDENTIALITY

The data in this study will be confidential. Your actual name will be removed from all data. These data will be kept on my locked personal computer and destroyed upon completion of the study. While it is understood that no computer transmission can be

perfectly secure, reasonable efforts will be made to protect the confidentiality of your transmission. The de-identified data could be used for future research without additional consent from participants. Participants will be asked to respond orally to interview questions. Interviews will be digitally recorded in order to ensure all comments by participants are captured. Digital recorders will remain with me at all times. Recorders will be stored in a locked file cabinet in my home office. Data will be stored in a locked cabinet in my home office during and copies will be stored in a locked office (Suite 1300, Thompson Hall) on Mason property. Recordings will be transcribed in my home office and erased 5 years after transcripts are completed.

PARTICIPATION

Your participation is voluntary, and you may withdraw from the study at any time and for any reason. If you decide to withdraw from the study, there is no penalty or loss of benefits to which you are otherwise entitled. There are no costs to you or any other party. The survey will take 5 – 10 minutes and if chosen (your participation is voluntary) you will be contacted to be interviewed; the interview will last from 45 minutes to an hour.

Inclusion Criteria

Research participants must be current or formal employees of REDACTED

CONTACT

This research is being conducted by Amanda Wagner, a PhD candidate in the College of Education and Human Development at George Mason University. She may be reached at awagne14@gmu.edu ~ (571) 358-7299. You may contact the George Mason University ~

Institutional Review Board (IRB) Office at 703-993-4121 if you have questions or comments regarding your rights as a participant in the research.

CONSENT

I have read this form and agree to participate in this study.

Name

Date of Signature

IRBNet number: 1385495-1

Appendix B

Recruitment Email for Survey Participants

My name is Amanda Wagner, and I am a doctoral candidate in the College of Education and Human Development at George Mason University. To complete my dissertation, I am conducting a study on teacher retention and attrition in this school district. I am seeking to understand the contributing factors to teacher retention and attrition and the influences that cause teachers to extend/terminate their contract within the profession, district, and/or school location, within this to explore the impact that administrators could make. This is important work that will address existing gaps in the attrition research literature as well as potentially inform administrators, school districts, and policy makers. I am seeking to understand the contributing factors to teacher retention and attrition and the impact that administrators have on teacher attrition. In order to gather the necessary data, I am asking you to participate in my research by participating in a survey. The information learned from this study may help to increase teacher retention, inform districts and education policy on teacher retention and recruitment. The survey will take approximately **5-10 minutes**. Your participation is completely voluntary and you may withdraw at any time. Additionally, for the purpose of the research, your identity will be recorded with a number and listed as —Teacher #_____. The only people that will have access to this will be myself and University Dissertation Supervisor. While it is

understood that no computer transmission can be perfectly secure, reasonable efforts will be made to protect the confidentiality of your transmission. The de-identified data could be used for future research without additional consent from participants. If you have any questions, please contact me at awagne14@gmu.edu

Thank you, Amanda Wagner

(571) 921-8000

Doctoral Candidate, George Mason University

IRBNet number: 1385495-1

Appendix C

Teacher Information

4/22/2019 Teacher Attrition Study

<https://docs.google.com/forms/d/1PDCH2RuQJKD7-Jer8m47-s8CJWBWvMrvHvXMTQkABU/>

1. How many years have you worked as a teacher at your current (SY 2018-2019)school?

Mark only one oval.

1 - 3 years

4 - 10 years

11 - 20 years

More than 20 years

2. How many total years have you worked as a teacher?

Mark only one oval.

1 - 3 years

4 - 10 years

11 - 20 years

More than 20 years

3. How many years have you worked in REDACTED?

Mark only one oval.

1 - 3 years

4 - 10 years

11 - 20 years

More than 20 years

4. How many years have you worked with your current principal?

Mark only one oval.

1 - 3 years

4 - 10 years

11 - 20 years

More than 20 years

5. Select the grades of the students you currently teach?

select those that apply

Check all that apply.

Prekindergarten

Kindergarten

1st

2nd

3rd
4th
5th
6th
7th
8th
9th
10th
11th
12th

6. What is the highest degree or level of school you have completed?

Mark only one oval.

High school graduate, diploma or the equivalent (for example: GED)
Some college credit, no degree
Trade/technical/vocational training
Associate degree
Bachelor degree
Masters degree
Professional degree
Doctorate degree

7. Are you male or female?

Mark only one oval.

Male
Female

8. What is the best description of your race?

mark all that apply

Check all that apply.

American Indian or Alaska Native
Asian
Black or African American
Native Hawaiian or Pacific Islander
White
Other

9. Which of the following best describes your immediate professional plans for SY 2019-2020?

Mark only one oval.

Continue teaching at my current school
Continue teaching in this district but leave this school
Continue teaching in this state but leave this district
Continue teaching in a state other than REDACTED
Retire
Leave education to work in another field

Teacher Attrition and Retention

On the following 5-point scale, please rate how influential the

following educational elements were in your decision to leave or stay for SY 2019-2020

(5) being Y 2019-2020important Y 2019-2020ing rtant Y 2019-2020tantrt**10. Personal work achievement (e.g., experiencing personal success)**

Mark only one oval.

1 2 3 4 5

not at all important extremely important

11. Your principals knowledge/support of your professional goals

Mark only one oval.

1 2 3 4 5

not at all important extremely important

12. Working Conditions (e.g., facility conditions, available material)

Mark only one oval.

1 2 3 4 5

not at all important extremely important

13. Leadership opportunities provided to you

Mark only one oval.

1 2 3 4 5

not at all important extremely important

14. Principals knowledge / support of your needs

Mark only one oval.

1 2 3 4 5

not at all important extremely important

15. Salary (e.g., compensation for responsibilities)

Mark only one oval.

1 2 3 4 5

not at all important extremely important

16. School culture / climate

Mark only one oval.

1 2 3 4 5

not at all important extremely important

17. Students (e.g., relationships, behavior, differentiation/needs)

Mark only one oval.

1 2 3 4 5

not at all important extremely important

18. Relationships with colleagues

Mark only one oval.

1 2 3 4 5

not at all important extremely important

19. Relationships with administration

Mark only one oval.

1 2 3 4 5

not at all important extremely important

20. Relationships with parents

Mark only one oval.

1 2 3 4 5

not at all important extremely important

21. Additional Responsibilities (e.g., meetings)

Mark only one oval.

1 2 3 4 5

not at all important extremely important

22. Class size

Mark only one oval.

1 2 3 4 5

not at all important extremely important

23. School Reputation

Mark only one oval.

1 2 3 4 5

not at all important extremely important

24. District reputation

Mark only one oval.

1 2 3 4 5

not at all important extremely important

25. Student population / demographics

Mark only one oval.

1 2 3 4 5

not at all important extremely important

26. School size

Mark only one oval.

1 2 3 4 5

not at all important extremely important

27. Amount of time allotted for planning

Mark only one oval.

1 2 3 4 5

not at all important extremely important

28. Time/quality of professional development

Mark only one oval.

1 2 3 4 5

not at all important extremely important

29. Level of teacher autonomy in school-wide decisions

Mark only one oval.

1 2 3 4 5

not at all important extremely important

30. Level of teacher autonomy in classroom decisions

Mark only one oval.

1 2 3 4 5

not at all important extremely important

31. Amount / quality of mentoring

Mark only one oval.

1 2 3 4 5

not at all important extremely important

32. Safety (e.g., feeling safe in your school, position, etc)

Mark only one oval.

1 2 3 4 5

not at all important extremely important

33. Discipline

Mark only one oval.

1 2 3 4 5

not at all important extremely important

34. In your own words; what one factor was the most important in your professional decision for SY 2019 - 2020

How important are the following qualities of an administrator to you relative to your retention / satisfaction / performance

Rate the following on a 5 point scale with 5 being extremely important and 1 being not at all important

35. My principal's interest in teacher success

Mark only one oval.

1 2 3 4 5

not at all important extremely important

36. My principal's interest in student success

Mark only one oval.

1 2 3 4 5

not at all important extremely important

37. My principal's understanding of my personal priorities

Mark only one oval.

1 2 3 4 5

not at all important extremely important

38. My principal's investment in school culture / morale

Mark only one oval.

1 2 3 4 5

not at all important extremely important

39. My principal's ability to disagree / agree

Mark only one oval.

1 2 3 4 5

not at all important extremely important

40. My principal's communication

Mark only one oval.

1 2 3 4 5

not at all important extremely important

41. My principal's honesty / integrity

Mark only one oval.

1 2 3 4 5

not at all important extremely important

42. My principal's respect for me

Mark only one oval.

1 2 3 4 5

not at all important extremely important

43. My principal has an open door

Mark only one oval.

1 2 3 4 5

not at all important extremely important

Follow-Up Interview

In order to gain additional insight and better understanding, participants may be contacted for a brief

follow-up interview. Please indicate below whether you would be willing to contribute further to this research.

44. If selected, are you willing to be contacted for a follow-up interview? *

Mark only one oval.

Yes *Skip to question 46.*

No *Stop filling out this form.*

Please provide your contact information

Please provide your contact information should you be selected for follow-up interview

46. First and Last Name *

47. Phone Number *

48. Email Address-if other than REDACTED is preferred

Teacher Attrition Study with informed consent for survey

TEACHER INFORMED CONSENT FORM

RESEARCH PROCEDURES

This research is being conducted to evaluate the contributing factors to the attrition or persistence of teachers in education. If you give permission to participate, your responses, written survey communications (5-10 minutes in duration), will be documented.

RISKS

There are no foreseeable risks for participating in this research.

BENEFITS

There are no direct benefits to you as a participant. However, this research is intended to provide a better understanding of possibilities and opportunities to support and retain teachers in education. Future improvements to teacher programs may also be derived from the results of this study.

CONFIDENTIALITY

The data in this study will be confidential. Your actual name will be removed from all data. These data will be kept on my locked personal computer and destroyed upon completion of the study. While it is understood that no computer transmission can be

perfectly secure, reasonable efforts will be made to protect the confidentiality of your transmission. The de-identified data could be used for future research without additional consent from participants.

PARTICIPATION

Your participation is voluntary, and you may withdraw from the study at any time and for any reason. If you decide to withdraw from the study, there is no penalty or loss of benefits to which you are otherwise entitled. There are no costs to you or any other party.

Inclusion Criteria - Research participants must be current or formal employees of REDACTED

CONTACT

This research is being conducted by Amanda Wagner, a PhD candidate in the College of Education and Human Development at George Mason University. She may be reached at awagne14@gmu.edu - (571) 358-7299. You may contact the George Mason University Institutional Review Board (IRB) Office at 703-993-4121 if you have questions or comments regarding your rights as a participant in the research.

CONSENT

I have read this form and agree to participate in this study.

Consent

1. I have read the Teacher Informed Consent, I am a teacher (defined as instructional / licensed personnel) and agree to participate *

Mark only one oval.

YES

NO *Stop filling out this form.*

While it is understood that no computer transmission can be perfectly secure, reasonable efforts will be made to protect the confidentiality of your transmission. The de-identified data could be used for future research without additional consent from participants.

IRBNet number: 1385495-1

Appendix D

Recruitment Email for Interview Participants

My name is Amanda Wagner, and I am a doctoral candidate in the College of Education and Human Development at George Mason University. To complete my dissertation, I am conducting a study on teacher retention and attrition in this school district. I am seeking to understand the contributing factors to teacher retention and attrition and the impact that administrators could have. This is important work that will address existing gaps in the attrition research literature as well as potentially inform administrators, school districts, and policy makers. The interview will take approximately **45 minutes to an hour**. Prior to beginning the interview, you will again be given the informed consent form that will need to be signed. The interview will incorporate both general, non-identifiable, information along with questions pertaining to your experiences at this school district. Your participation is completely voluntary and you may withdraw at any time. Additionally, for the purpose of the research, your identity will be recorded with a number and listed as —Teacher #_____. The only people that will have access to the interview recording will be myself and the University Dissertation Supervisor. After the audio has been transcribed it will be destroyed to ensure confidentiality.

The de-identified data could be used for future research without additional consent from participants. Participants will be asked to respond orally to interview questions.

Interviews will be digitally recorded in order to ensure all comments by participants are captured. Digital recorders will remain with me at all times. Recorders will be stored in a locked file cabinet in my home office. Data will be stored in a locked cabinet in my home office during and copies will be stored in a locked office (Suite 1300, Thompson Hall) on Mason property. Recordings will be transcribed in my home office and erased 5 years after transcripts are completed.

If you have any questions, please contact me at awagne14@gmu.edu - (571) 358-7299

Thank you, Amanda Wagner

Doctoral Candidate, George Mason University

IRBNet number: 1385495-1

Appendix E

Interview Script and Questions

Interviewer: Hello, my name is Amanda Wagner, and I am a doctoral candidate in the College of Education and Human Services at George Mason University. As part of my dissertation course, I am conducting this interview with the intention of gaining insight as to the contributing factors to teachers' persistence and attrition. In order to gather the necessary data, I am asking you to participate in this interview. I will examine all responses from yourself and others within this district and the influences that cause teachers to stay in the teaching profession within their current district or another district, or to leave the profession. The information learned from this study may help to increase teacher retention, or inform teacher induction programs. This interview will take approximately 45 minutes. Your participation is completely voluntary and you may withdraw at any time. Additionally, for the purpose of the research, your identity will be recorded with a number and listed as Teacher # ___. The only people that will have access to the interview recording will be me (Student Researcher). After the audio has been transcribed it will be destroyed to ensure confidentiality. Prior to beginning this interview, you have been given a consent form and if you agree to the terms outlined previously as well as here today I ask that you sign. The consent form further explains the process of taking part in the research. This interview will focus on questions pertaining to

your experiences within this school district. My purpose in conducting this interview is to understand the factors that impact teachers' desire to persist or choose to leave the school or profession and to further understand those factors. Should you have any questions throughout this process, please contact me at 571.358.7299 or through email at awagne14@gmu.edu.

Before we begin today, do you have any questions?

We will begin with general questions and build toward deeper questions; however, please keep in mind that any additional information throughout the interview that you would like to provide is not only acceptable, it is welcomed and appreciated!

"The de-identified data could be used for future research without additional consent from participants."

1. Please tell me a little about yourself, your educational and professional history leading up to the current school year.
2. What is your teaching philosophy?
3. Tell me about your experience with the mentoring program in this district.
4. How would you describe your current principal's leadership style?
5. If you have been in more than one school how would you describe similarities and differences in your principal's style? How did those affect your decisions to stay or leave?
6. How would you describe a supportive work environment?
7. How do you believe a collegial atmosphere throughout your school is created?
8. Describe your current workload.
9. Define teacher empowerment.
10. Was the school principal a part of your recruitment or interview process? What were your initial perceptions? Were they accurate?
11. Describe your relationship with your building principal.
12. Describe your relationship with your colleagues.
13. Describe your relationship with your students.
14. What do you consider to be some of your school's and this district's strengths and weaknesses?

15. Based upon your own perceptions, what factors do you believe keep teachers or cause them to leave?
16. What role did your building principal have in your decision to stay or leave?
17. What actions can principals take to retain teachers?
18. In your own words, what one factor was the most important in your professional decision for SY 2019-2020?
19. Tell me about a time you felt supported by your principal and a time you didn't feel supported by your principal.
20. Is there anything else that you would like to share?

Appendix G

Coding Table

Data Source	Data Codes
Survey	<p>Participant Identifier</p> <ul style="list-style-type: none"> • Name = Teacher # <p>Questions 1 – 4</p> <ul style="list-style-type: none"> • (1-3 years) = 1 • (4-10 years) = 2 • (11-20 years) = 3 <ul style="list-style-type: none"> ○ 11+ years • (more than 20 years) = 4 <ul style="list-style-type: none"> ○ 11+ years • Blanks = average of overall data set <p>Question 5</p> <ul style="list-style-type: none"> • Elementary (preK-4) = 1 • Middle (5-8) = 2 • High (9-12) = 3 • Span = 4 <p>Question 6</p> <ul style="list-style-type: none"> • AS = 1 • BS = 2 • MS = 3 • Dr = 4 • PD = 5 • Blanks = average of overall data set <p>Question 7</p> <ul style="list-style-type: none"> • Male = 1 • Female = 2 • Blanks = average of overall data set

	<p>Question 8</p> <ul style="list-style-type: none">• Asian = 2• Black/African American = 3• Other = 4• White = 5• Multiple = 6• Blanks = average of overall data set <p>Question 9</p> <ul style="list-style-type: none">• Continue at current school = 1• Continue teaching, different state = 2• Continue teaching, different school same district= 3• Continue teaching, same state, different district = 4• Leave education, work in another field = 5• Retire = 6• Blanks = average of overall data set <p><i>for regression analysis</i></p> <ul style="list-style-type: none">• Movers / Stayers = 1• Leavers = 0• Blanks = average of overall data set <p>Questions 10-43</p> <ul style="list-style-type: none">• A scale of 1 to 5 with five being “extremely important” and one being “not at all important” was used to answer scale questions relative to the importance in a respondent's decisions specific to teaching.• Blanks = average of overall data set• Analysis code of total score: <table><tr><th>Start</th><th>Stop</th><th>Scale Code</th></tr><tr><td>33</td><td>59.4</td><td>1</td></tr><tr><td>59.4</td><td>85.8</td><td>2</td></tr><tr><td>85.8</td><td>112.2</td><td>3</td></tr><tr><td>112.2</td><td>138.6</td><td>4</td></tr><tr><td>138.6</td><td>165</td><td>5</td></tr></table>	Start	Stop	Scale Code	33	59.4	1	59.4	85.8	2	85.8	112.2	3	112.2	138.6	4	138.6	165	5
Start	Stop	Scale Code																	
33	59.4	1																	
59.4	85.8	2																	
85.8	112.2	3																	
112.2	138.6	4																	
138.6	165	5																	
Interview	<p>Participant Identifier</p> <ul style="list-style-type: none">• Name = Teacher #• Personal Factor Questions –																		

	<ul style="list-style-type: none"> ○ Please tell me a little about yourself, your educational and professional history leading up to the current school year. ○ What is your teaching philosophy? ○ Tell me about your experience with the mentoring program in this district. ○ Define teacher empowerment. ○ Was the school principal a part of your recruitment or interview process? What were your initial perceptions? Were they accurate? ○ Describe your relationship with your building principal. ○ Describe your relationship with your colleagues. ○ Describe your relationship with your students. ○ Based upon your own perceptions, what factors do you believe keep teachers or cause them to leave? ○ Is there anything else that you would like to share? ● Organization Factor Questions – <ul style="list-style-type: none"> ○ How would you describe your current principal's leadership style? ○ If you have been in more than one school how would you describe similarities and differences in your principal's style? How did those affect your decisions to stay or leave? ○ How would you describe a supportive work environment? ○ How do you believe a collegial atmosphere throughout your school is created? ○ Describe your current workload. ○ What do you consider to be some of your school's and this district's strengths and weaknesses? ○ What role did your building principal have in your decision to stay or leave?
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	<ul style="list-style-type: none"> ○ What actions can principals take to retain teachers? ○ Tell me about a time you felt supported by your principal and a time you didn't feel supported by your principal. ○ Is there anything else that you would like to share? ● Push or Pull Factors (Determined based off of trends found within responses) <ul style="list-style-type: none"> ○ Relationships ○ ● Triangulation <ul style="list-style-type: none"> ○ Data chart
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Appendix H

Descriptive Statistics of 24 organization factors

Question	Plan ALL: N = 299 Leavers: N = 12 Movers: N = 48 Stayers: N = 239	M	SD	Findings
Personal work achievement (e.g., experiencing personal success)	ALL	4.24333333 33	0.8562902 54	Stayers have higher attribution of importance in Personal work achievement than do the Leavers, and Movers; who are almost equal although their answers have higher SD rates
	Leavers	4	1.2060453 78	
	Movers	3.98333333 33	1.1122075 57	
	Stayers	4.2408026 76	0.8566013 05	
Your principal's knowledge/support of your professional goals	ALL	3.8729096 99	1.1515536 17	Leavers have the lowest attribution of importance to principal's knowledge/support of their professional goals; although their answers have higher SD rates
	Leavers	3	1.4142135 62	
	Movers	3.9661016 95	1.2029575 87	
	Stayers	3.8758389 26	1.1523742 73	
Working Conditions (e.g., facility)	ALL	4.13333333 33	0.9825682 45	Stayers' attributed higher importance to working conditions are the highest, with
	Leavers	3.66666666 67	1.1547005 38	

conditions, available material)	Movers	3.9833333 33	1.2418093 23	the lowest SD rates, while Leavers seem to not believe highly in this, their scores are the lowest; Movers seem uncertain overall as their SD is the highest
	Stayers	4.1304347 83	0.9829298 82	
Leadership opportunities provided to you	ALL	3.4280936 45	1.2167786 9	Leavers' attribution of importance in Leadership opportunities provided to them are the lowest; Movers have the highest SD
	Leavers	2.6666666 67	1.3026778 95	
	Movers	3.2333333 33	1.3945009 03	
	Stayers	3.4261744 97	1.2183720 43	
Principal's knowledge / support of your needs	ALL	4.12	1.0814334 6	Stayers have the highest attribution of importance that their principal's knowledge/support of their needs; while Leavers have the lowest attributions of importance; although they have the highest SD
	Leavers	3.3333333 33	1.2309149 1	
	Movers	4.0333333 33	1.1784314	
	Stayers	4.1237458 19	1.0812952 16	
Salary (e.g., compensation for responsibilities)	ALL	4.0633333 33	1.0079892 68	Leavers have the lowest attribution of importance about Salary; although they have the highest SD. Stayers have the highest attributions of importance
	Leavers	2.8333333 33	1.4034589 31	
	Movers	3.5	1.3716252 89	
	Stayers	4.0602006 69	1.0082152 28	
School culture / climate	ALL	4.32	0.9312127 53	Relatively neutral attributions of importance at each Plan level for attributions of importance in School
	Leavers	4.3333333 33	1.2309149 1	
	Movers	4.3666666 67	1.1194227 73	

	Stayers	4.3177257 53	0.9319389 72	culture/climate; although Leavers have the highest SD
Students (e.g., relationships, behavior, differentiation/needs)	ALL	4.23	0.9867517 06	Leavers have the highest attributions of importance in Student relationships, behavior, differentiation/needs, with Stayers a very close second; this is a factor to explore further
	Leavers	4.3333333 33	1.1547005 38	
	Movers	4.0833333 33	1.1686826 81	
	Stayers	4.2274247 49	0.9873955 93	
Relationships with colleagues	ALL	4.19	0.8999628 38	Leavers have the lowest attribution of importance in relationships with colleagues while Stayers have the most; this is a factor to explore further
	Leavers	3.0833333 33	1.2401124 09	
	Movers	3.8166666 67	1.1422794 14	
	Stayers	4.1939799 33	0.8988231 75	
Relationships with administration	ALL	3.9663299 66	0.9823841 99	Stayers have the most attributions of importance in relationships with administration, while Leavers have the least; this is a factor to explore further
	Leavers	3.0833333 33	1.1645001 53	
	Movers	3.8474576 27	1.2150430 58	
	Stayers	3.9695945 95	0.9824327 32	
Relationships with parents	ALL	3.9663299 66	0.9823841 99	Stayers have the most attributions of importance in relationships with parents, while Leavers have the least; this is a factor to explore further
	Leavers	3.0833333 33	1.1645001 53	
	Movers	3.8474576 27	1.2150430 58	
	Stayers	3.9695945 95	0.9824327 32	
Additional Responsibilities (e.g., meetings)	ALL	3.2852348 99	1.0898290 63	Movers have the most attributions of importance in additional responsibilities, while Stayers are
	Leavers	3.3333333 33	1.3706888 34	
	Movers	3.4406779 66	1.2355535 75	

	Stayers	3.2828282 83	1.0908749 65	more solidified in their attributions of importance as their SD is the smallest; Overall this seems to be a none factor
Class size	ALL	3.7190635 45	1.1877469 19	Stayers have the most attributions of importance in Class Size while Leavers and Movers are relatively equal in their attributions of importance, although Leavers have the highest SD
	Leavers	3.6666666 67	1.6143297 7	
	Movers	3.6	1.291432	
	Stayers	3.7147651 01	1.1874129 9	
School Reputation	ALL	3.1170568 56	1.2191192 36	Stayers have the highest attributions of importance, although at a 3 and lower overall School Reputation seems to be a nonfactor for this sample
	Leavers	2.5833333 33	1.3113721 71	
	Movers	2.8166666 67	1.2418093 23	
	Stayers	3.1174496 64	1.2211509 47	
District reputation	ALL	3.07	1.1845295 98	Stayers have the highest attributions of importance, although at a 3 and lower overall District Reputation seems to be a nonfactor for this sample
	Leavers	2.6666666 67	1.3026778 95	
	Movers	3	1.3276715 95	
	Stayers	3.0702341 14	1.1865084 47	
Student population / demographics	ALL	2.77	1.1668927 95	Stayers and Movers have the highest attributions of importance in Student population / demographics although at a 2.7 and lower overall Student population / demographics seems
	Leavers	2.5833333 33	1.4433756 73	
	Movers	2.7166666 67	1.1802278 82	
	Stayers	2.7725752 51	1.1679947 78	

				to be a nonfactor for this sample
School size	ALL	2.61	1.155718659	Stayers and Movers have the highest attributions of importance in School size although at a 2.6 and lower overall School size seems to be a nonfactor for this sample
	Leavers	2.416666667	1.083624669	
	Movers	2.366666667	1.040968693	
	Stayers	2.612040134	1.157114926	
Amount of time allotted for planning	ALL	3.743333333	1.155525719	Stayers have the highest attributions of importance in Amount of time allotted for planning; while Leavers and Movers were almost equal in their attributions of importance, but less certain as they have the highest SD
	Leavers	3.25	1.215431087	
	Movers	3.6	1.264911064	
	Stayers	3.739130435	1.155163741	
Time/quality of professional development	ALL	3.430976431	1.14908162	Stayers and Movers have the highest attributions of importance in Time/quality of professional development
	Leavers	3	1.044465936	
	Movers	3.4	1.317419151	
	Stayers	3.432432432	1.150753104	
Level of teacher autonomy in school-wide decisions	ALL	3.898305085	0.977552741	Stayers have the most attributions of importance in the Level of teacher autonomy in school-wide decisions while Movers and Leavers were almost equal in their attributions of importance; Leavers and Stayers seemed the most certain in
	Leavers	3.416666667	0.900336637	
	Movers	3.593220339	1.146488553	
	Stayers	3.897959184	0.979201415	

				their responses as their SD were the lowest
Level of teacher autonomy in classroom decisions	ALL	4.25	0.8963881 45	Stayers have the highest attributions of importance in the Level of teacher autonomy in classroom decisions; while Leavers have the least. Movers seem the most uncertain about their responses as their SD is the highest
	Leavers	3.6666666 67	1.0730867 4	
	Movers	3.9	1.1153778 72	
	Stayers	4.2474916 39	0.8968356 35	
Amount / quality of mentoring	ALL	3.1605351 17	1.2535778 52	Leavers have the lowest attributions of importance in the Amount / quality of mentoring with Movers being the most uncertain on this topic as their SD is the highest. With a 3.1 the Amount / quality of mentoring seems to be a nonfactor for this sample
	Leavers	2.5833333 33	1.2401124 09	
	Movers	2.95	1.4073053 95	
	Stayers	3.1610738 26	1.2556518 11	
Safety (e.g., feeling safe in your school, position, etc.)	ALL	4.0434782 61	1.0967229 75	Stayers have the highest attributions of importance in Safety, while Leavers have the lowest, although they have the highest SD
	Leavers	3.5833333 33	1.5050420 31	
	Movers	3.6833333 33	1.3591082 15	
	Stayers	4.0402684 56	1.0971600 6	
Discipline	ALL	4.0802675 59	1.0587975 62	Leavers have the highest attributions of importance in Discipline, Stayers have the least attributions of
	Leavers	4.5	1.1677484 16	
	Movers	4.1666666 67	1.2096598 02	

	Stayers	4.0771812 08	1.0592304 43	importance. With a 4.5 for the Leavers, this is a factor to explore further.
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Appendix I

Descriptive Statistics of 9 principal specific factors

Question	Plan ALL: N = 299 Leavers: N = 12 Movers: N = 48 Stayers: N = 239	M	SD	Findings
My principal's interest in teacher success	ALL	4.476666667	0.786246038	Stayers have the highest attributions of importance in My principal's interest in teacher success, Leavers the lowest but they have the highest SD
	Leavers	3.916666667	1.240112409	
	Movers	4.333333333	0.950765377	
	Stayers	4.488294314	0.761288712	
My principal's interest in student success	ALL	4.628762542	0.689792893	Stayers have the highest attributions of importance in My principal's interest in student success, Leavers the lowest but they have the highest SD
	Leavers	4.25	1.215431087	
	Movers	4.566666667	0.870742264	
	Stayers	4.640939597	0.657975	
My principal's understanding	ALL	3.986666667	0.943108549	Stayers and Movers have almost identical
	Leavers	3.5	1.087114613	
	Movers	3.916666667	0.86928115	

of my personal priorities	Stayers	3.996655518	0.928657571	attributions of importance in My principal's understanding of my personal priorities, Leavers the lowest but they have the highest SD
My principal's investment in school culture / morale	ALL	4.603333333	0.693487784	Stayers have the highest attributions of importance in My principal's investment in school culture / morale, Leavers the lowest but have the highest SD
	Leavers	4.25	1.138180366	
	Movers	4.533333333	0.812334294	
	Stayers	4.615384615	0.662437108	
My principal's ability to disagree / agree	ALL	4.120805369	0.913149371	Stayers have the highest attributions of importance in My principal's ability to disagree / agree, Leavers the least, and the lowest of all factors
	Leavers	0.363636364	1.206045378	
	Movers	3.966101695	1.066190474	
	Stayers	4.131313131	0.896462243	
My principal's communication	ALL	4.57	0.774877269	Stayers and Movers have almost the same attributions of importance in My principal's communication, Leavers the least but they have the highest SD
	Leavers	4.25	1.138180366	
	Movers	4.516666667	0.911167377	
	Stayers	4.581939799	0.748023065	

My principal's honesty / integrity	ALL	4.7090301	0.649433462	Stayers have the highest attributions of importance in My principal's honesty / integrity, Leavers the least but they have the highest SD
	Leavers	4.416666667	1.164500153	
	Movers	4.661016949	0.779260691	
	Stayers	4.72147651	0.61376618	
My principal's respect for me	ALL	4.634228188	0.703839572	Stayers have the highest attributions of importance in My principal's respect for me, Leavers the least but they have the highest SD
	Leavers	4.166666667	1.267304465	
	Movers	4.583333333	0.765609687	
	Stayers	4.646464646	0.672527473	
My principal has an open door	ALL	4.33	0.892799138	Stayers have the highest attributions of importance in My principal has an open door, Leavers the least but they have the highest SD
	Leavers	3.916666667	1.240112409	
	Movers	4.266666667	0.9363953	
	Stayers	4.341137124	0.873172134	

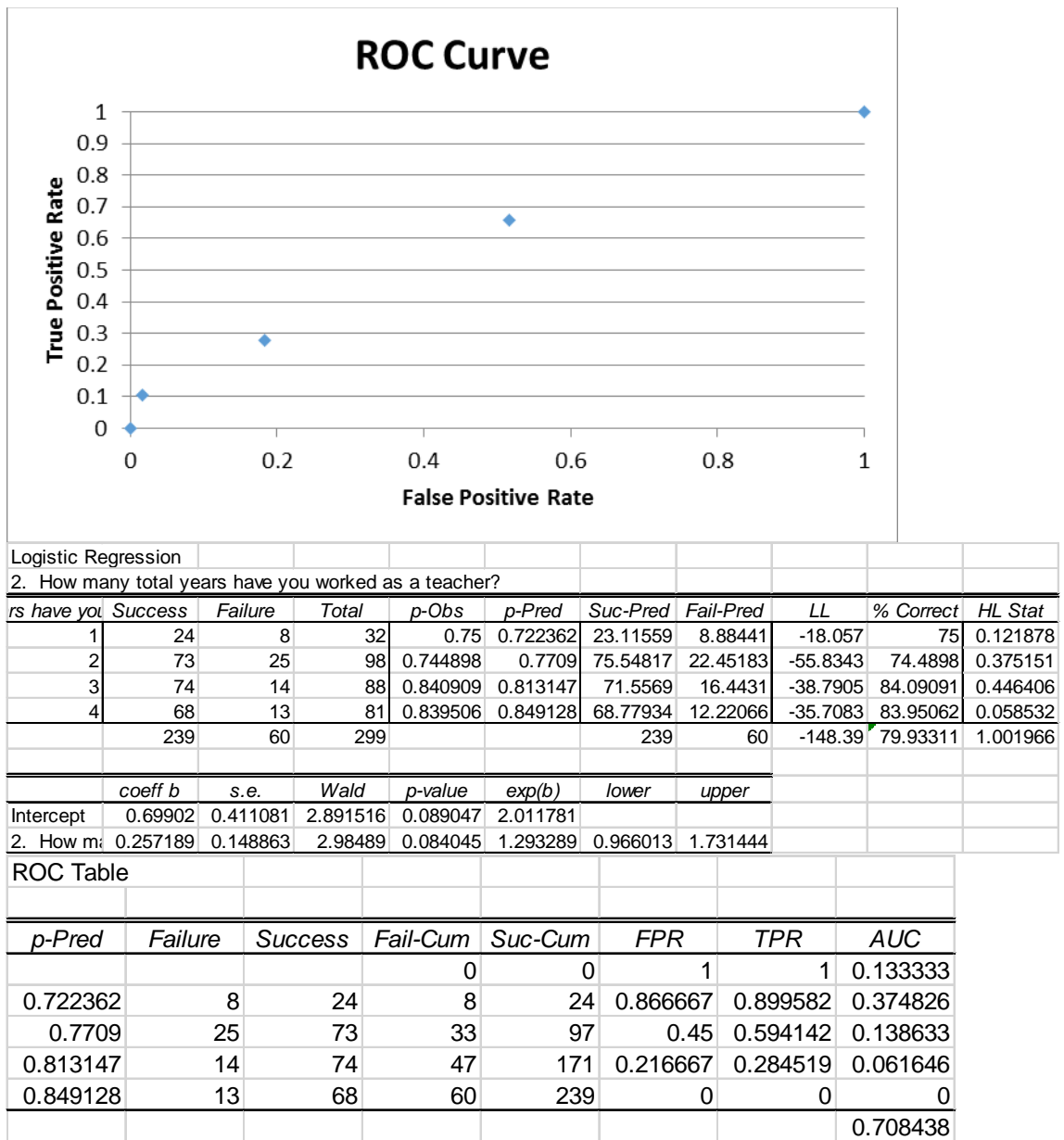
Appendix J

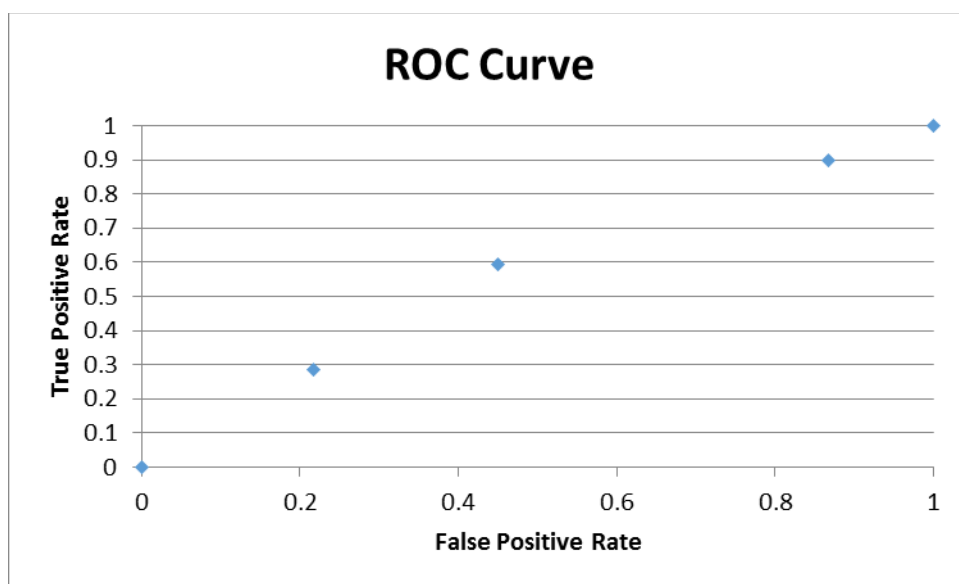
Logistic Regressions

Classification Table			
	Suc-Obs	Fail-Obs	
Suc-Pred	239	60	299
Fail-Pred	0	0	0
	239	60	299
Accuracy	1	0	0.799331
Cutoff	0.5		

Logistic Regression										
1. How many years have you worked as a teacher at your current (SY 2018-2019)school?										
a teacher	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	82	29	111	0.738739	0.738022	81.9204	29.0796	-63.7554	73.87387	0.000295
2	91	20	111	0.81982	0.80754	89.63691	21.36309	-52.4097	81.98198	0.107702
3	41	10	51	0.803922	0.862058	43.96498	7.035018	-25.895	80.39216	1.44958
4	25	1	26	0.961538	0.902989	23.47771	2.52229	-4.88406	96.15385	1.01746
	239	60	299			239	60	-146.944	79.93311	2.575038
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	0.63732	0.336126	3.59511	0.05795	1.891406					
1. How many	0.398391	0.17115	5.418297	0.019927	1.489426	1.064965	2.083064			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.483333
0.738022	29	82	29	82	0.516667	0.656904	0.218968
0.80754	20	91	49	173	0.183333	0.276151	0.046025
0.862058	10	41	59	214	0.016667	0.104603	0.001743
0.902989	1	25	60	239	0	0	0
							0.75007

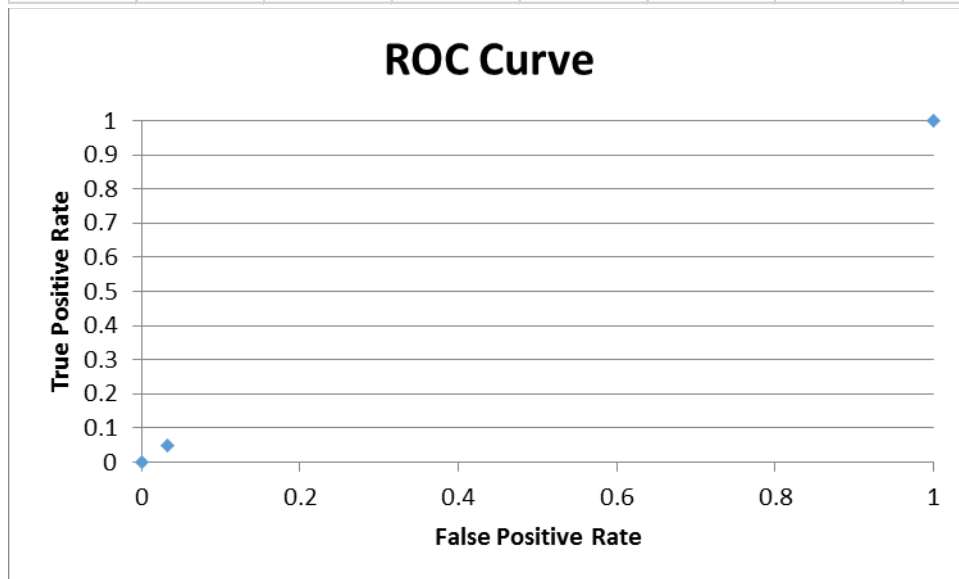




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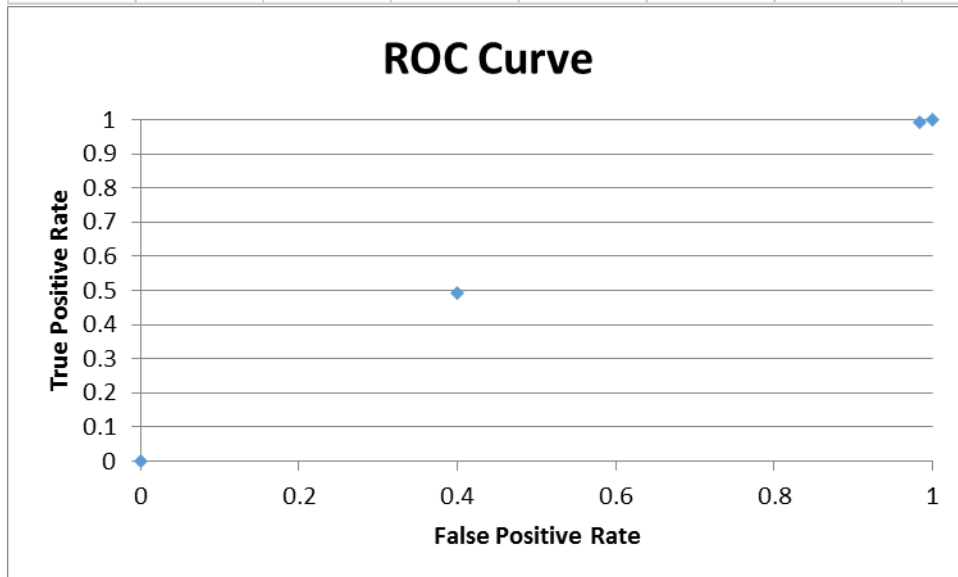
Logistic Regression										
4. How many years have you worked with your current principal?										
<i>worked with</i>	<i>Success</i>	<i>Failure</i>	<i>Total</i>	<i>p-Obs</i>	<i>p-Pred</i>	<i>Suc-Pred</i>	<i>Fail-Pred</i>	<i>LL</i>	<i>% Correct</i>	<i>HL Stat</i>
1	227	58	285	0.796491	0.796491	227	58	-143.99	79.64912	1.75E-29
2	12	2	14	0.857143	0.857143	12	2	-5.74163	85.71429	0
	239	60	299			239	60	-149.732	79.93311	1.75E-29
	<i>coeff b</i>	<i>s.e.</i>	<i>Wald</i>	<i>p-value</i>	<i>exp(b)</i>	<i>lower</i>	<i>upper</i>			
Intercept	0.937255	0.818486	1.31127	0.252165	2.552963					
4. How many years have you worked with your current principal?	0.427252	0.777805	0.301737	0.582796	1.53304	0.333799	7.040798			

ROC Table								
<i>p-Pred</i>	<i>Failure</i>	<i>Success</i>	<i>Fail-Cum</i>	<i>Suc-Cum</i>	<i>FPR</i>	<i>TPR</i>	<i>AUC</i>	
			0	0	1	1	0.966667	
0.796491	58	227	58	227	0.033333	0.050209	0.001674	
0.857143	2	12	60	239	0	0	0	
							0.96834	



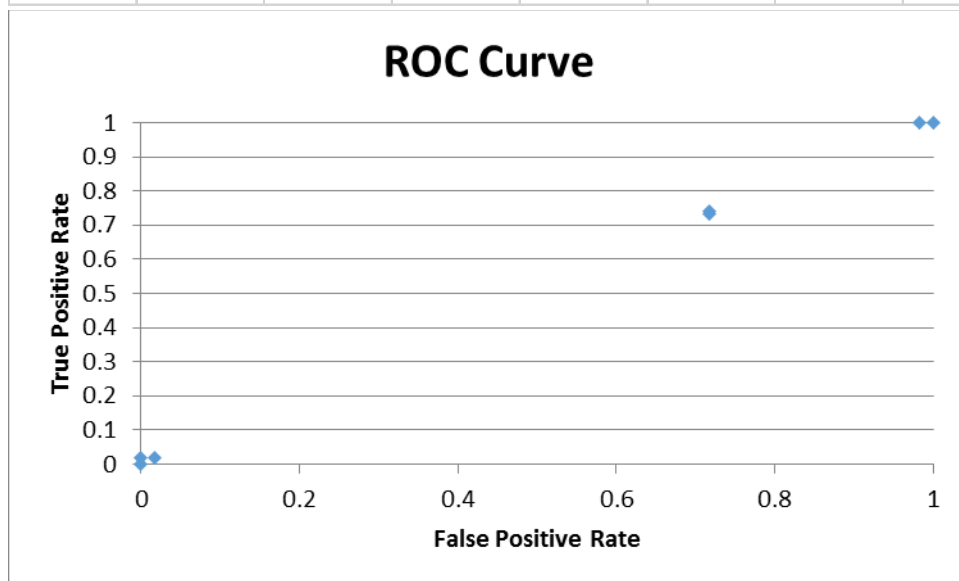
Logistic Regression										
5. Select the grades of the students you currently teach?2										
the student	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	118	24	142	0.830986	0.831642	118.0932	23.90683	-64.5136	83.09859	0.000437
2	119	35	154	0.772727	0.771517	118.8137	35.18635	-82.5385	77.27273	0.001279
3	2	1	3	0.666667	0.697725	2.093174	0.906826	-1.91628	66.66667	0.013721
	239	60	299			239	60	-148.968	79.93311	0.015437
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	1.977722	0.470048	17.70295	2.58E-05	7.22626					
5. Select	-0.38041	0.280162	1.843703	0.174518	0.68358	0.394744	1.183759			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.016667
0.697725	1	2	1	2	0.983333	0.991632	0.578452
0.771517	35	119	36	121	0.4	0.493724	0.19749
0.831642	24	118	60	239	0	0	0
							0.792608



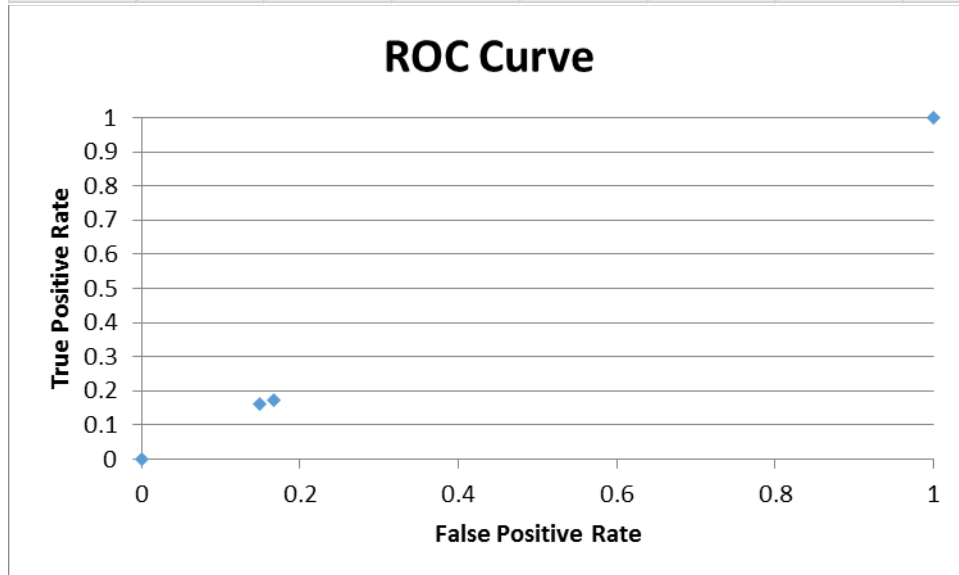
Logistic Regression									
6. What is the highest degree or level of school you have completed?									
Level of School	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct
1	0	1	1	0	0.735903	0.735903	0.264097	-1.33144	0
2	62	16	78	0.794872	0.773752	60.35268	17.64732	-39.6812	79.48718
2.8	2	0	2	1	0.80115	1.602299	0.397701	-0.44341	100
3	171	42	213	0.802817	0.807596	172.0179	40.98208	-105.764	80.28169
4	0	1	1	0	0.83744	0.83744	0.16256	-1.81671	0
5	4	0	4	1	0.863439	3.453754	0.546246	-0.58733	100
	239	60	299			239	60	-149.624	79.93311
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper		
Intercept	0.819938	0.772487	1.126625	0.288496	2.270358				
6. What is	0.204842	0.278183	0.542222	0.461513	1.227331	0.711495	2.117149		

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.016667
0.735903	1	0	1	0	0.983333	1	0.266667
0.773752	16	62	17	62	0.716667	0.740586	0
0.80115	0	2	17	64	0.716667	0.732218	0.512552
0.807596	42	171	59	235	0.016667	0.016736	0.000279
0.83744	1	0	60	235	0	0.016736	0
0.863439	0	4	60	239	0	0	0
							0.796165



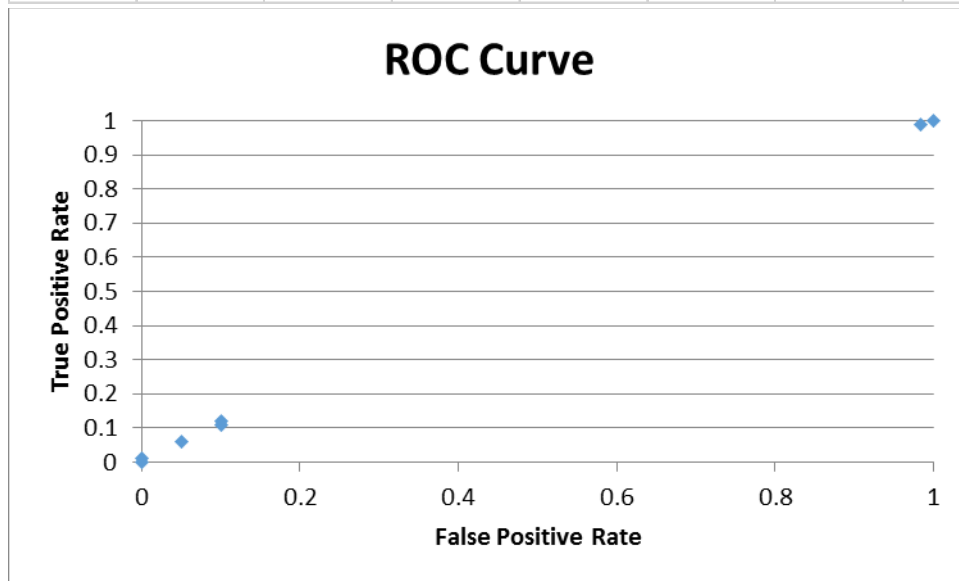
Logistic Regression										
7. Are you male or female?										
you male or f	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	39	9	48	0.8125	0.810835	38.92006	9.079942	-23.1642	81.25	0.000868
1.8	2	1	3	0.666667	0.799903	2.39971	0.60029	-2.05548	66.66667	0.33273
2	198	50	248	0.798387	0.797098	197.6802	50.31977	-124.654	79.83871	0.002549
	239	60	299			239	60	-149.873	79.93311	0.336147
	<i>coeff b</i>	<i>s.e.</i>	<i>Wald</i>	<i>p-value</i>	<i>exp(b)</i>	<i>lower</i>	<i>upper</i>			
Intercept	1.542631	0.753443	4.192024	0.040615	4.67688					
7. Are you r	-0.08719	0.400916	0.047295	0.827838	0.916504	0.417709	2.010917			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.833333
0.797098	50	198	50	198	0.166667	0.171548	0.002859
0.799903	1	2	51	200	0.15	0.16318	0.024477
0.810835	9	39	60	239	0	0	0
							0.860669



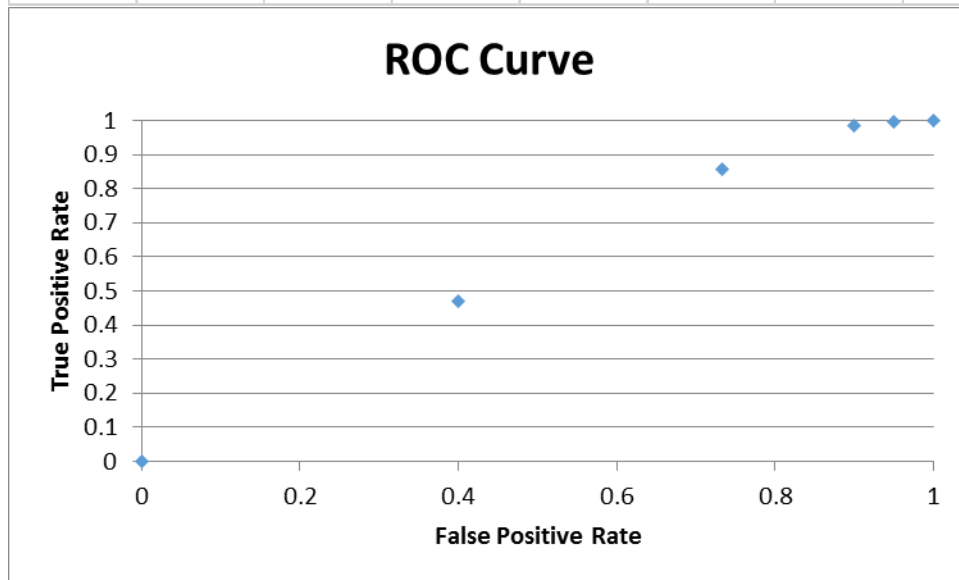
Logistic Regression										
8. What is the best description of your race?										
Best description	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
2	3	0	3	1	0.849949	2.549848	0.450152	-0.48774	100	0.529622
3	11	3	14	0.785714	0.833498	11.66897	2.33103	-7.38161	78.57143	0.230335
4	12	3	15	0.8	0.815634	12.23451	2.765493	-7.51797	80	0.024381
4.8	3	0	3	1	0.800301	2.400903	0.599097	-0.6683	100	0.74859
5	207	53	260	0.796154	0.796322	207.0436	52.9564	-131.479	79.61538	4.51E-05
6	3	1	4	0.75	0.775543	3.102172	0.897828	-2.25665	75	0.014992
	239	60	299			239	60	-149.791	79.93311	1.547965
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	1.981366	1.34292	2.176853	0.140101	7.252647					
8. What is	-0.12358	0.274693	0.202399	0.652791	0.88375	0.515834	1.51408			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.016667
0.775543	1	3	1	3	0.983333	0.987448	0.872245
0.796322	53	207	54	210	0.1	0.121339	0
0.800301	0	3	54	213	0.1	0.108787	0.005439
0.815634	3	12	57	225	0.05	0.058577	0.002929
0.833498	3	11	60	236	0	0.012552	0
0.849949	0	3	60	239	0	0	0
							0.89728



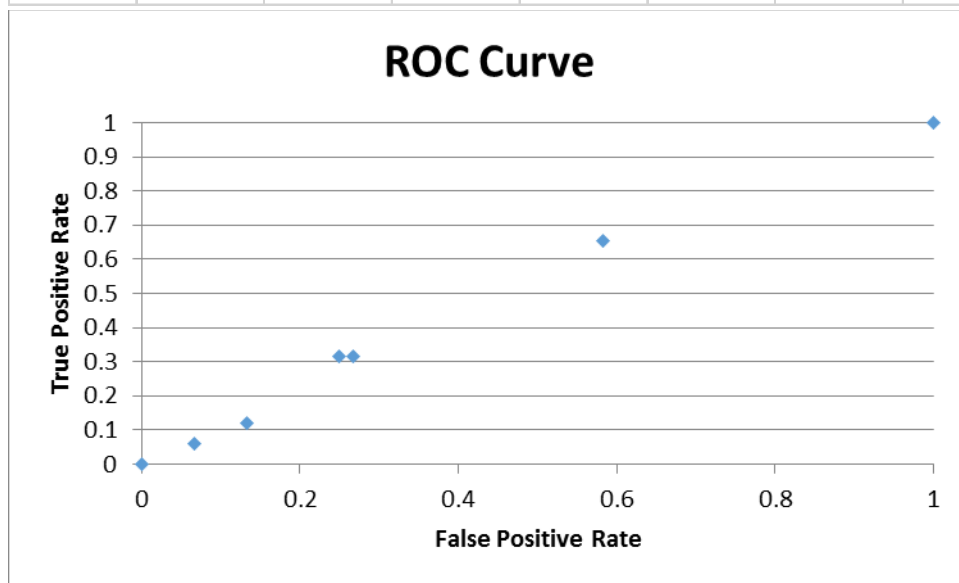
Logistic Regression										
10. Personal work achievement (e.g., experiencing personal success)										
nt (e.g., ex	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	1	3	4	0.25	0.527201	2.108803	1.891197	-2.88743	25	1.233092
2	3	3	6	0.5	0.625384	3.752303	2.247697	-4.35373	50	0.402626
3	30	10	40	0.75	0.71423	28.5692	11.4308	-22.6222	75	0.250751
4	93	20	113	0.823009	0.78911	89.16948	23.83052	-53.1554	82.30088	0.780269
5	112	24	136	0.823529	0.848531	115.4002	20.59979	-63.6928	82.35294	0.661428
	239	60	299			239	60	-146.712	79.93311	3.328166
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	-0.29464	0.660852	0.198786	0.655702	0.744797					
10. Person	0.403554	0.15816	6.510393	0.010725	1.497136	1.098082	2.04121			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.05
0.527201	3	1	3	1	0.95	0.995816	0.049791
0.625384	3	3	6	4	0.9	0.983264	0.163877
0.71423	10	30	16	34	0.733333	0.857741	0.285914
0.78911	20	93	36	127	0.4	0.468619	0.187448
0.848531	24	112	60	239	0	0	0
							0.737029



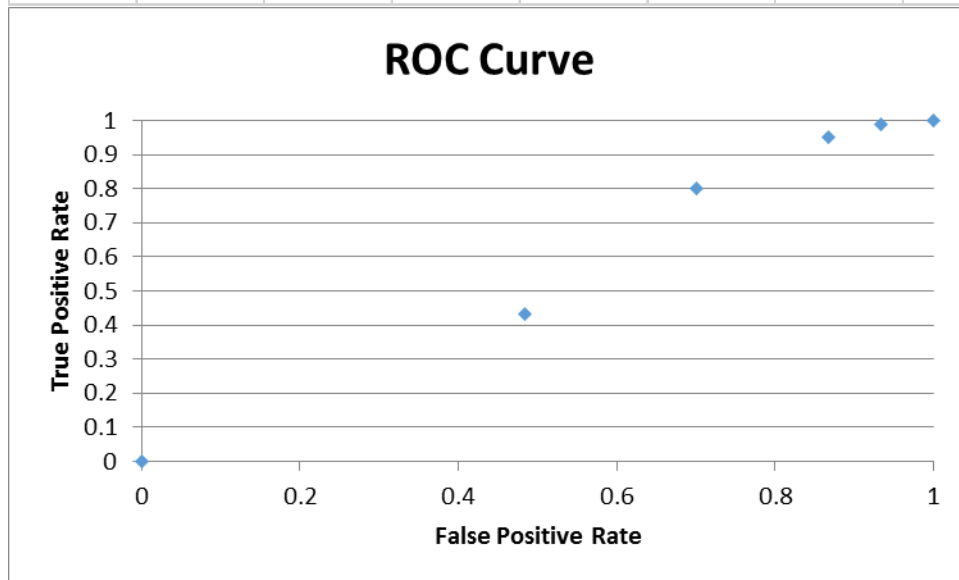
Logistic Regression										
11. Your principals knowledge/support of your professional goals										
Age/support	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	14	4	18	0.777778	0.836943	15.06497	2.935032	-9.74661	77.77778	0.461705
2	15	4	19	0.789474	0.824702	15.66934	3.330664	-9.85607	78.94737	0.163103
3	46	7	53	0.867925	0.811749	43.02269	9.977308	-21.2838	86.79245	1.094492
3.9	0	1	1	0	0.799473	0.799473	0.200527	-1.60681	0	3.986871
4	81	19	100	0.81	0.798073	79.80731	20.19269	-48.6671	81	0.08827
5	83	25	108	0.768519	0.783669	84.63622	23.36378	-58.5064	76.85185	0.14622
	239	60	299			239	60	-149.667	79.93311	5.94066
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	1.722773	0.531959	10.48817	0.001201	5.600038					
11. Your p	-0.08712	0.129797	0.450508	0.502094	0.916567	0.710691	1.182083			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.416667
0.783669	25	83	25	83	0.583333	0.65272	0.206695
0.798073	19	81	44	164	0.266667	0.313808	0.00523
0.799473	1	0	45	164	0.25	0.313808	0.036611
0.811749	7	46	52	210	0.133333	0.121339	0.008089
0.824702	4	15	56	225	0.066667	0.058577	0.003905
0.836943	4	14	60	239	0	0	0
							0.677197



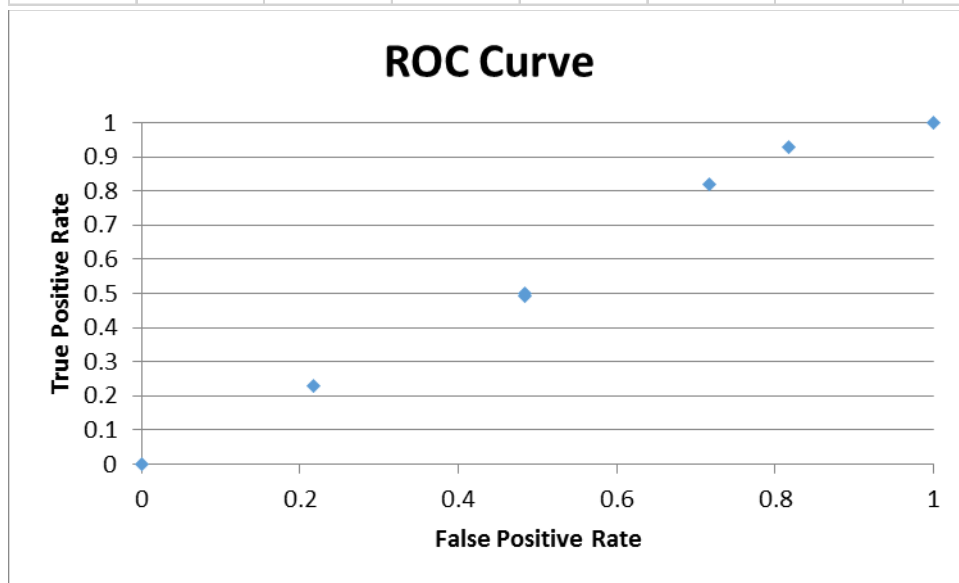
Logistic Regression										
12. Working Conditions (e.g., facility conditions, available material)										
, facility co	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	3	4	7	0.428571	0.695086	4.865604	2.134396	-5.84206	42.85714	2.345983
2	9	4	13	0.692308	0.732101	9.517313	3.482687	-8.07511	69.23077	0.104959
3	36	10	46	0.782609	0.766134	35.24217	10.75783	-24.1204	78.26087	0.06968
4	88	13	101	0.871287	0.797043	80.5013	20.4987	-40.6944	87.12871	3.441631
5	103	29	132	0.780303	0.8248	108.8736	23.12639	-70.3523	78.0303	1.808647
	239	60	299			239	60	-149.084	79.93311	7.770902
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	0.642705	0.583071	1.215012	0.270342	1.901618					
12. Workin	0.181302	0.140258	1.670899	0.196138	1.198777	0.910648	1.578069			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.066667
0.695086	4	3	4	3	0.933333	0.987448	0.06583
0.732101	4	9	8	12	0.866667	0.949791	0.158298
0.766134	10	36	18	48	0.7	0.799163	0.173152
0.797043	13	88	31	136	0.483333	0.430962	0.208298
0.8248	29	103	60	239	0	0	0
							0.672245



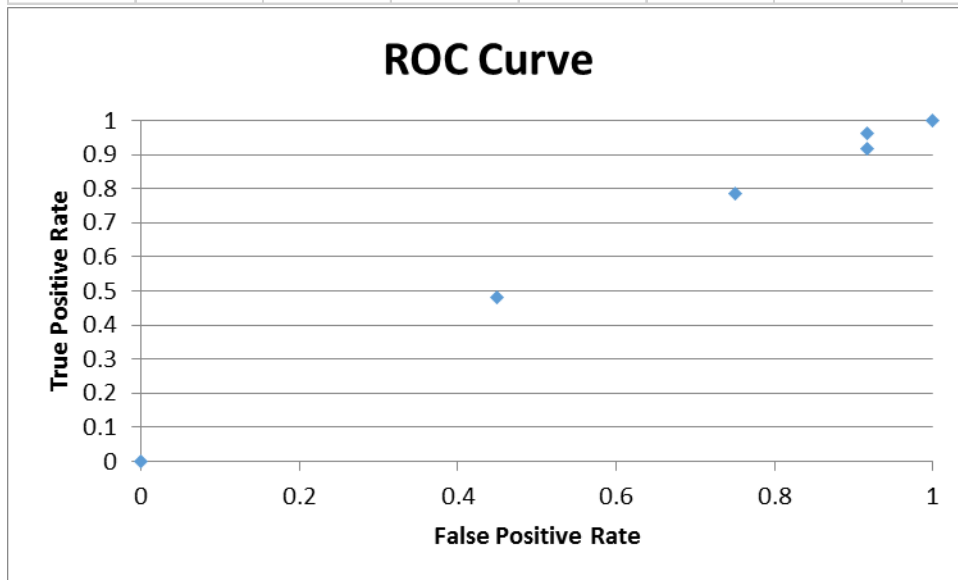
Logistic Regression										
13. Leadership opportunities provided to you										
opportunities	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	17	11	28	0.607143	0.731744	20.48883	7.511171	-19.7835	60.71429	2.214586
2	26	6	32	0.8125	0.762103	24.3873	7.612703	-15.679	81.25	0.448287
3	77	14	91	0.846154	0.790012	71.89112	19.10888	-39.9993	84.61538	1.728949
3.4	1	0	1	1	0.800481	0.800481	0.199519	-0.22254	100	0.249249
4	63	16	79	0.797468	0.81544	64.41978	14.58022	-39.8902	79.74684	0.169547
5	55	13	68	0.808824	0.838419	57.01249	10.98751	-33.3888	80.88235	0.439649
	239	60	299			239	60	-148.963	79.93311	5.250267
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	0.842733	0.411662	4.190802	0.040644	2.322706					
13. Leader	0.160756	0.1173	1.878183	0.170541	1.174398	0.933189	1.477955			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.183333
0.731744	11	17	11	17	0.816667	0.92887	0.092887
0.762103	6	26	17	43	0.716667	0.820084	0.191353
0.790012	14	77	31	120	0.483333	0.497908	0
0.800481	0	1	31	121	0.483333	0.493724	0.13166
0.81544	16	63	47	184	0.216667	0.230126	0.049861
0.838419	13	55	60	239	0	0	0
							0.649093



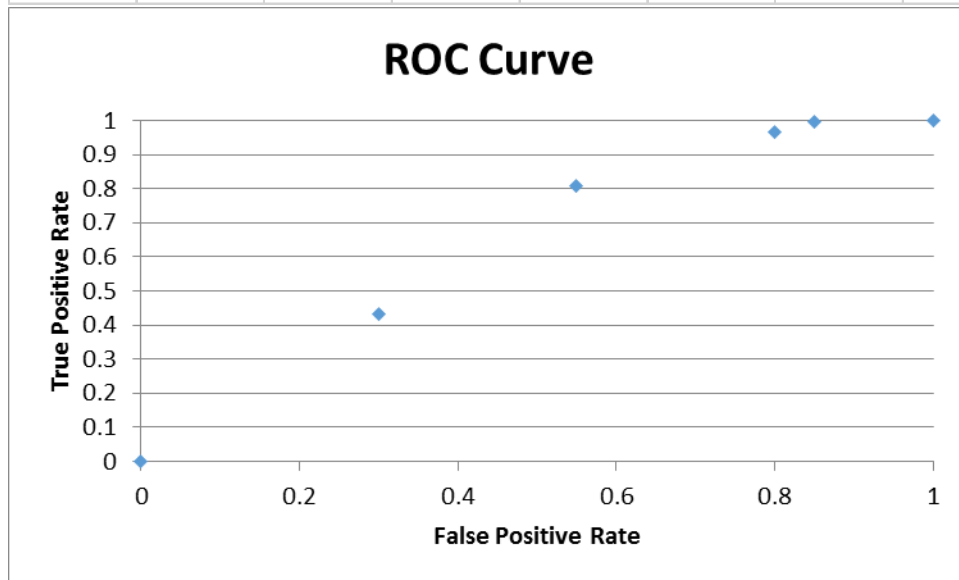
Logistic Regression										
14. Principals knowledge / support of your needs										
Medge / suj	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	9	5	14	0.642857	0.748954	10.48536	3.514639	-9.5123	64.28571	0.838161
2	11	0	11	1	0.766125	8.42738	2.57262	-2.9305	100	3.357961
3	31	10	41	0.756098	0.782463	32.08099	8.919006	-22.8584	75.60976	0.167443
4	73	18	91	0.802198	0.797961	72.61443	18.38557	-45.2631	80.21978	0.010133
5	115	27	142	0.809859	0.812619	115.3918	26.60816	-69.0762	80.98592	0.007101
	239	60	299			239	60	-149.64	79.93311	4.3808
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	0.999525	0.54348	3.38236	0.065898	2.716991					
14. Princip	0.093518	0.129087	0.524837	0.468786	1.09803	0.85258	1.414144			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.083333
0.748954	5	9	5	9	0.916667	0.962343	0
0.766125	0	11	5	20	0.916667	0.916318	0.15272
0.782463	10	31	15	51	0.75	0.786611	0.235983
0.797961	18	73	33	124	0.45	0.481172	0.216527
0.812619	27	115	60	239	0	0	0
							0.688563



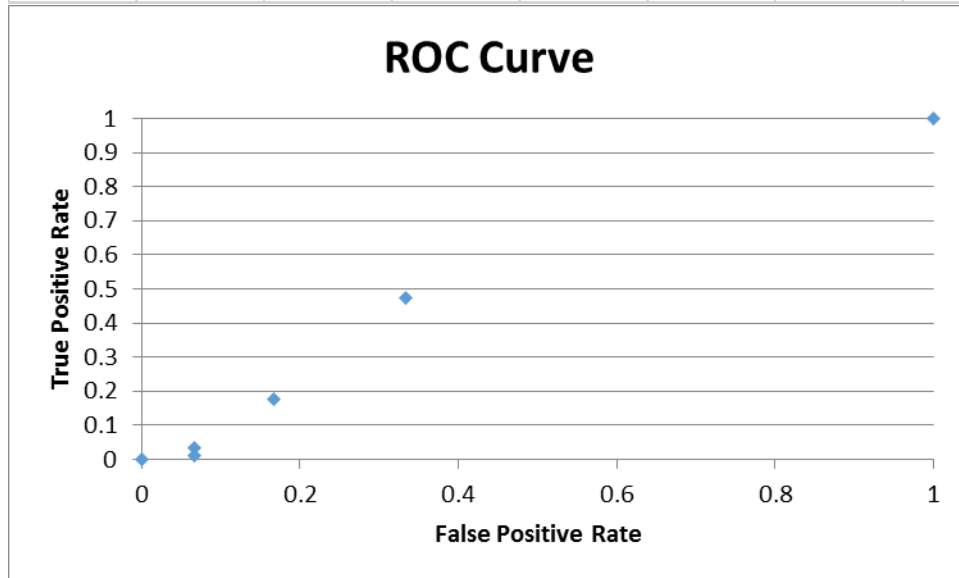
Logistic Regression										
15. Salary (e.g., compensation for responsibilities)										
Compensation	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	1	9	10	0.1	0.393036	3.930362	6.069638	-5.42743	90	3.599542
2	7	3	10	0.7	0.548627	5.486265	4.513735	-6.58874	70	0.925309
3	38	15	53	0.71698113	0.695257	36.84862	16.15138	-31.6363	71.69811	0.118053
4	90	15	105	0.85714286	0.810691	85.12251	19.87749	-43.8538	85.71429	1.476307
5	103	18	121	0.85123967	0.889357	107.6122	13.38776	-51.7035	85.12397	1.786651
	239	60	299			239	60	-139.21	82.6087	7.905862
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	-1.06426	0.542345	3.850726	0.04972447	0.344984					
15. Salary	0.62969	0.139281	20.43957	6.1544E-06	1.877029	1.428614	2.466193			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.15
0.393036	9	1	9	1	0.85	0.995816	0.049791
0.548627	3	7	12	8	0.8	0.966527	0.241632
0.695257	15	38	27	46	0.55	0.807531	0.201883
0.810691	15	90	42	136	0.3	0.430962	0.129289
0.889357	18	103	60	239	0	0	0
							0.772594



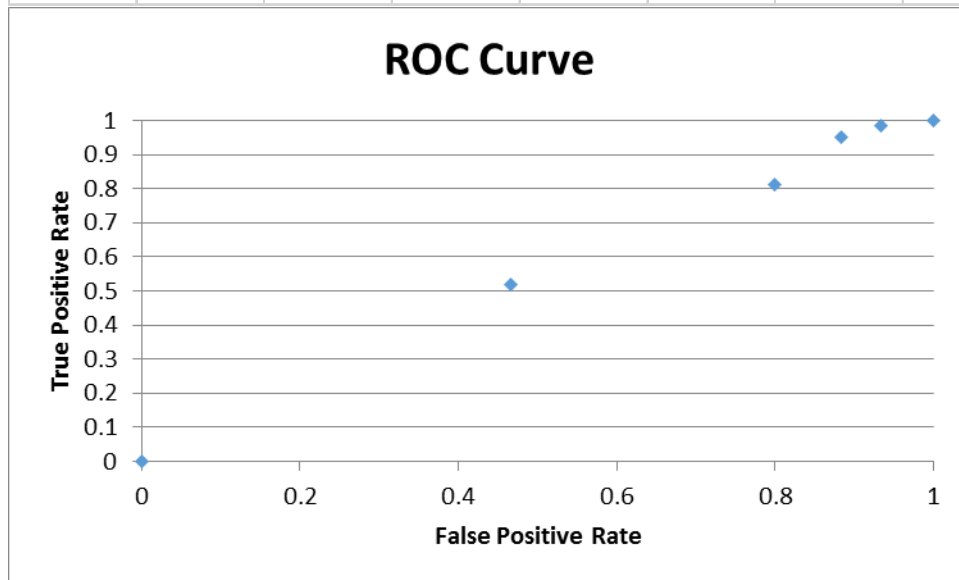
Logistic Regression										
16. School culture / climate										
School culture /	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	3	4	7	0.428571	0.835573	5.849009	1.150991	-7.76006	42.85714	8.439792
2	5	0	5	1	0.825298	4.126489	0.873511	-0.96006	100	1.058419
3	34	6	40	0.85	0.814523	32.58093	7.419073	-17.0841	85	0.33324
4	71	10	81	0.876543	0.803242	65.06264	15.93736	-31.8138	87.65432	2.753743
5	126	40	166	0.759036	0.791451	131.3809	34.61907	-92.1731	75.90361	1.056758
	239	60	299			239	60	-149.791	79.93311	13.64195
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	1.698638	0.712819	5.678624	0.017173	5.466495					
16. School	-0.07299	0.160271	0.207395	0.648817	0.929612	0.679014	1.272694			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.666667
0.791451	40	126	40	126	0.333333	0.472803	0.078801
0.803242	10	71	50	197	0.166667	0.175732	0.017573
0.814523	6	34	56	231	0.066667	0.033473	0
0.825298	0	5	56	236	0.066667	0.012552	0.000837
0.835573	4	3	60	239	0	0	0
							0.763877



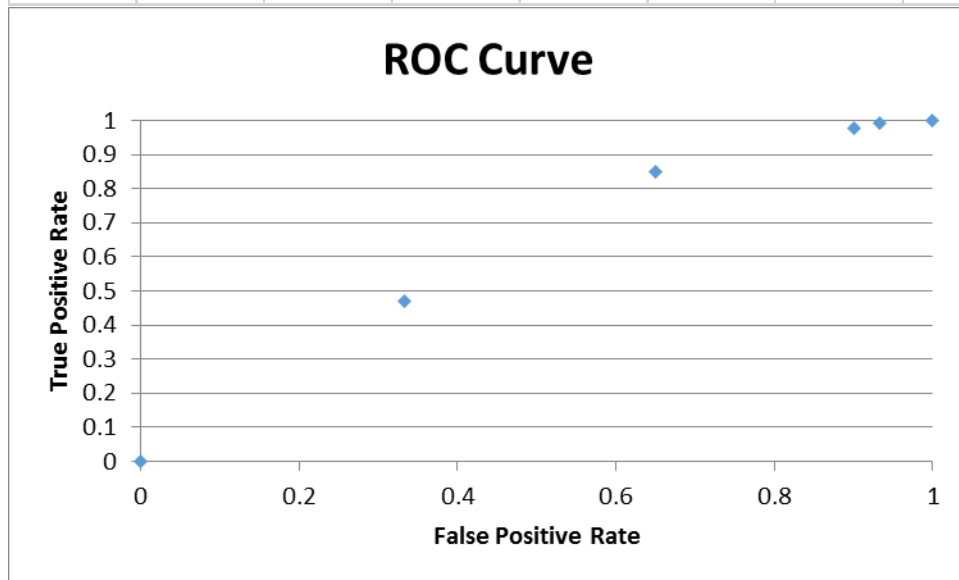
Logistic Regression										
17. Students (e.g., relationships, behavior, differentiation/needs)										
<i>ships, behi</i>	<i>Success</i>	<i>Failure</i>	<i>Total</i>	<i>p-Obs</i>	<i>p-Pred</i>	<i>Suc-Pred</i>	<i>Fail-Pred</i>	<i>LL</i>	<i>% Correct</i>	<i>HL Stat</i>
1	4	4	8	0.5	0.696013	5.568101	2.431899	-6.21263	50	1.452732
2	8	3	11	0.727273	0.731586	8.047441	2.952559	-6.446	72.72727	0.001042
3	33	5	38	0.868421	0.764405	29.04738	8.952622	-16.0939	86.84211	2.282953
4	70	20	90	0.777778	0.794339	71.49052	18.50948	-47.7477	77.77778	0.151104
5	124	28	152	0.815789	0.821359	124.8466	27.15344	-72.6291	81.57895	0.032134
	239	60	299			239	60	-149.129	79.93311	3.919964
	<i>coeff b</i>	<i>s.e.</i>	<i>Wald</i>	<i>p-value</i>	<i>exp(b)</i>	<i>lower</i>	<i>upper</i>			
Intercept	0.654082	0.589024	1.2331	0.266805	1.923375					
17. Studer	0.1743	0.138343	1.587377	0.207701	1.190413	0.907694	1.561189			

ROC Table							
<i>p-Pred</i>	<i>Failure</i>	<i>Success</i>	<i>Fail-Cum</i>	<i>Suc-Cum</i>	<i>FPR</i>	<i>TPR</i>	<i>AUC</i>
			0	0	1	1	0.066667
0.696013	4	4	4	4	0.933333	0.983264	0.049163
0.731586	3	8	7	12	0.883333	0.949791	0.079149
0.764405	5	33	12	45	0.8	0.811715	0.270572
0.794339	20	70	32	115	0.466667	0.518828	0.24212
0.821359	28	124	60	239	0	0	0
							0.707671



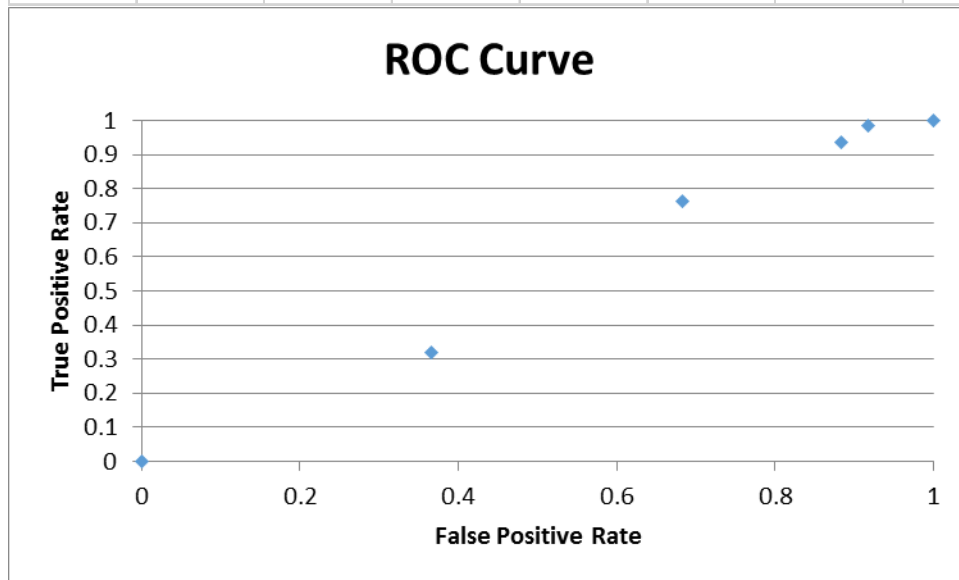
Logistic Regression										
18. Relationships with colleagues										
Relationships with	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	2	4	6	0.333333	0.43782	2.626921	3.373079	-3.95563	66.66667	0.266136
2	3	2	5	0.6	0.5698	2.848999	2.151001	-3.37442	60	0.018604
3	31	15	46	0.673913	0.692553	31.85743	14.14257	-29.0803	67.3913	0.075062
4	91	19	110	0.827273	0.793004	87.23045	22.76955	-51.0314	82.72727	0.786953
5	112	20	132	0.848485	0.866941	114.4362	17.56381	-56.3311	84.84848	0.389777
	239	60	299			239	60	-143.773	80.60201	1.536531
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	-0.78106	0.6218	1.577863	0.209069	0.45792					
18. Relatio	0.531048	0.1522	12.1742	0.000485	1.700713	1.262056	2.291836			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.066667
0.43782	4	2	4	2	0.933333	0.991632	0.033054
0.5698	2	3	6	5	0.9	0.979079	0.24477
0.692553	15	31	21	36	0.65	0.849372	0.268968
0.793004	19	91	40	127	0.333333	0.468619	0.156206
0.866941	20	112	60	239	0	0	0
							0.769665



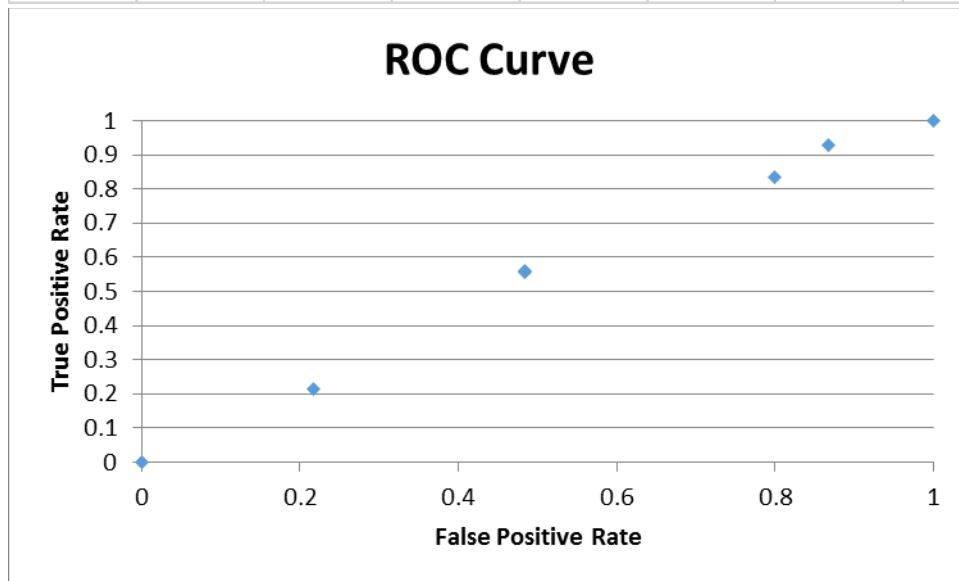
Logistic Regression										
19. Relationships with administration										
<i>hips with a</i>	<i>Success</i>	<i>Failure</i>	<i>Total</i>	<i>p-Obs</i>	<i>p-Pred</i>	<i>Suc-Pred</i>	<i>Fail-Pred</i>	<i>LL</i>	<i>% Correct</i>	<i>HL Stat</i>
1	4	5	9	0.444444	0.718867	6.469806	2.530194	-7.66496	44.44444	3.353691
2	11	2	13	0.846154	0.748438	9.729698	3.270302	-5.94757	84.61538	0.65928
3	42	12	54	0.777778	0.775869	41.89691	12.10309	-28.6047	77.77778	0.001132
4	106	19	125	0.848	0.801103	100.1379	24.86214	-54.1916	84.8	1.725382
5	76	22	98	0.77551	0.82414	80.76572	17.23428	-52.937	77.55102	1.599056
	239	60	299			239	60	-149.346	79.93311	7.33854
	<i>coeff b</i>	<i>s.e.</i>	<i>Wald</i>	<i>p-value</i>	<i>exp(b)</i>	<i>lower</i>	<i>upper</i>			
Intercept	0.787399	0.572805	1.889631	0.169244	2.197674					
19. Relatio	0.151451	0.142694	1.126498	0.288524	1.163521	0.879656	1.538989			

ROC Table							
<i>p-Pred</i>	<i>Failure</i>	<i>Success</i>	<i>Fail-Cum</i>	<i>Suc-Cum</i>	<i>FPR</i>	<i>TPR</i>	<i>AUC</i>
			0	0	1	1	0.083333
0.718867	5	4	5	4	0.916667	0.983264	0.032775
0.748438	2	11	7	15	0.883333	0.937238	0.187448
0.775869	12	42	19	57	0.683333	0.761506	0.241144
0.801103	19	106	38	163	0.366667	0.317992	0.116597
0.82414	22	76	60	239	0	0	0
							0.661297



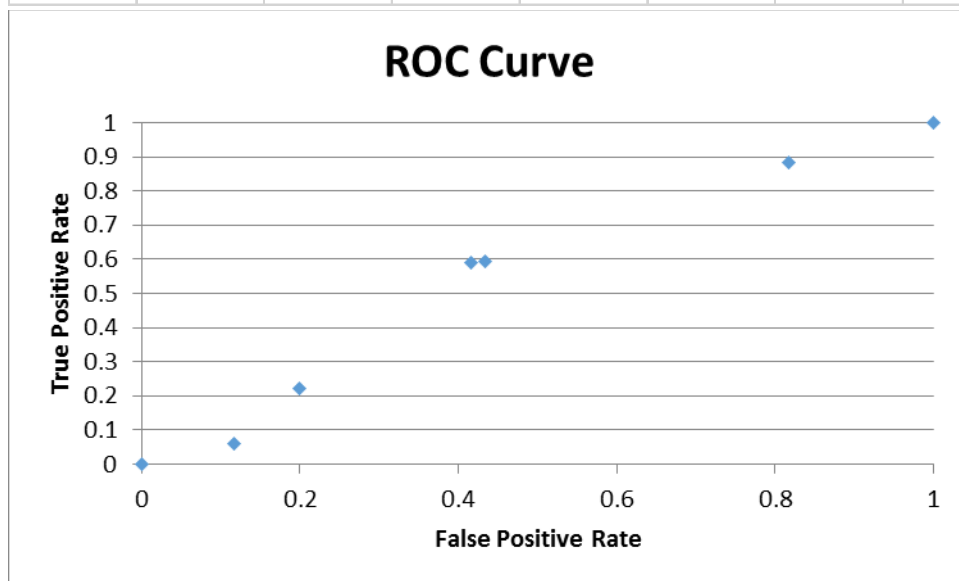
Logistic Regression										
20. Relationships with parents										
<i>onships w/</i>	<i>Success</i>	<i>Failure</i>	<i>Total</i>	<i>p-Obs</i>	<i>p-Pred</i>	<i>Suc-Pred</i>	<i>Fail-Pred</i>	<i>LL</i>	<i>% Correct</i>	<i>HL Stat</i>
1	17	8	25	0.68	0.747868	18.6967	6.303301	-15.9614	68	0.610684
2	23	4	27	0.851852	0.769868	20.78643	6.21357	-11.8917	85.18519	1.024305
3	65	19	84	0.77381	0.790486	66.40081	17.59919	-44.9783	77.38095	0.141049
3.5	1	0	1	1	0.800273	0.800273	0.199727	-0.2228	100	0.249573
4	82	16	98	0.836735	0.809713	79.35189	18.64811	-43.8557	83.67347	0.464415
5	51	13	64	0.796875	0.827561	52.9639	11.0361	-32.5031	79.6875	0.422302
	239	60	299			239	60	-149.413	79.93311	2.912328
	<i>coeff b</i>	<i>s.e.</i>	<i>Wald</i>	<i>p-value</i>	<i>exp(b)</i>	<i>lower</i>	<i>upper</i>			
Intercept	0.966982	0.438444	4.864162	0.02742	2.629995					
20. Relatio	0.120291	0.121651	0.977774	0.322749	1.127825	0.888572	1.4315			

ROC Table							
<i>p-Pred</i>	<i>Failure</i>	<i>Success</i>	<i>Fail-Cum</i>	<i>Suc-Cum</i>	<i>FPR</i>	<i>TPR</i>	<i>AUC</i>
			0	0	1	1	0.133333
0.747868	8	17	8	17	0.866667	0.92887	0.061925
0.769868	4	23	12	40	0.8	0.832636	0.263668
0.790486	19	65	31	105	0.483333	0.560669	0
0.800273	0	1	31	106	0.483333	0.556485	0.148396
0.809713	16	82	47	188	0.216667	0.213389	0.046234
0.827561	13	51	60	239	0	0	0
							0.653556



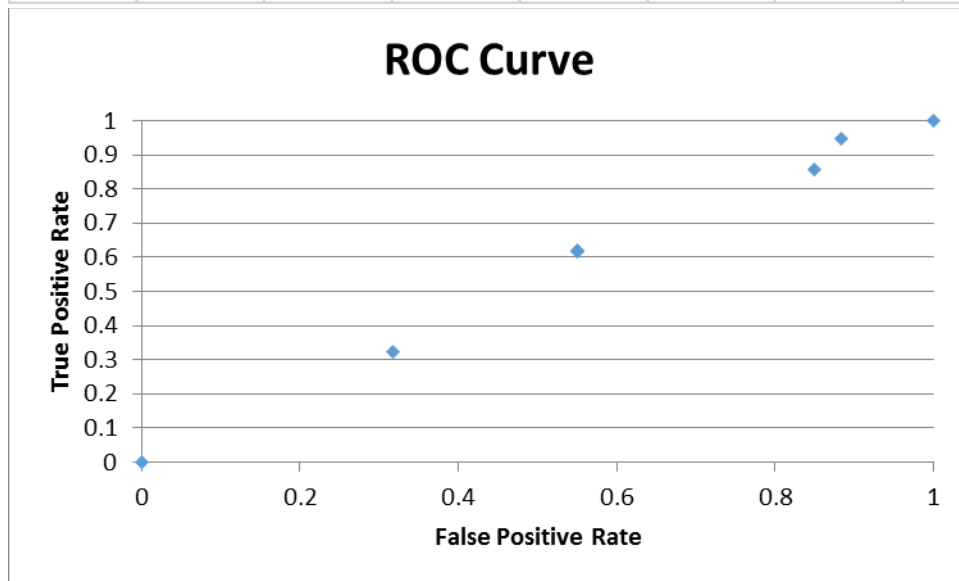
Logistic Regression										
21. Additional Responsibilities (e.g., meetings)										
Responsibilities	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	14	7	21	0.666667	0.855335	17.96202	3.037975	-15.721	66.66667	6.041073
2	39	5	44	0.886364	0.833194	36.66055	7.339448	-16.0717	88.63636	0.894987
3	88	13	101	0.871287	0.808425	81.6509	19.3491	-40.1969	87.12871	2.577056
3.3	1	1	2	0.5	0.800467	1.600935	0.399065	-1.83434	50	1.130491
4	69	23	92	0.75	0.780944	71.84685	20.15315	-51.9842	75	0.514952
5	28	11	39	0.717949	0.750737	29.27873	9.721266	-23.3093	71.79487	0.224053
	239	60	299			239	60	-149.117	79.93311	11.38261
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	1.945699	0.485681	16.04905	6.17E-05	6.998523					
21. Additio	-0.16863	0.136325	1.530101	0.216097	0.844821	0.646732	1.103583			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.183333
0.750737	11	28	11	28	0.816667	0.882845	0.338424
0.780944	23	69	34	97	0.433333	0.594142	0.009902
0.800467	1	1	35	98	0.416667	0.589958	0.127824
0.808425	13	88	48	186	0.2	0.221757	0.01848
0.833194	5	39	53	225	0.116667	0.058577	0.006834
0.855335	7	14	60	239	0	0	0
							0.684798



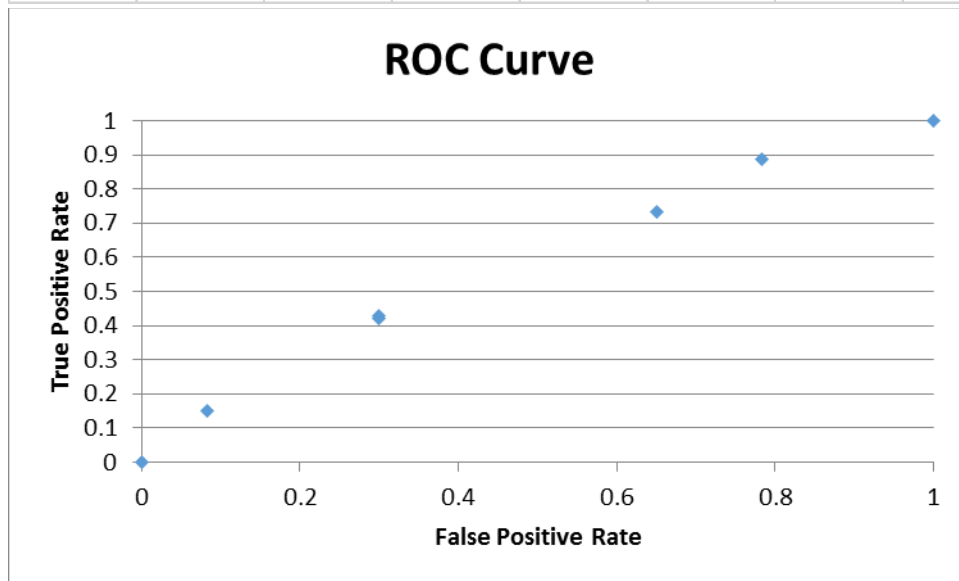
Logistic Regression										
22. Class size										
2. Class size	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	13	7	20	0.65	0.752888	15.05775	4.942245	-13.4753	65	1.137975
2	21	2	23	0.913043	0.771107	17.73462	5.265384	-8.40817	91.30435	2.626302
3	57	18	75	0.76	0.788291	59.12183	15.87817	-41.5054	76	0.359695
3.7	1	0	1	1	0.79977	0.79977	0.20023	-0.22343	100	0.250359
4	70	14	84	0.833333	0.804545	67.58177	16.41823	-38.0774	83.33333	0.442709
5	77	19	96	0.802083	0.819836	78.70426	17.29574	-47.86	80.20833	0.204835
	239	60	299			239	60	-149.55	79.93311	5.021875
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	1.013782	0.457653	4.907	0.026748	2.756006					
22. Class size	0.100291	0.119595	0.703225	0.401702	1.105492	0.874492	1.397512			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.116667
0.752888	7	13	7	13	0.883333	0.945607	0.03152
0.771107	2	21	9	34	0.85	0.857741	0.257322
0.788291	18	57	27	91	0.55	0.619247	0
0.79977	0	1	27	92	0.55	0.615063	0.143515
0.804545	14	70	41	162	0.316667	0.322176	0.102022
0.819836	19	77	60	239	0	0	0
							0.651046



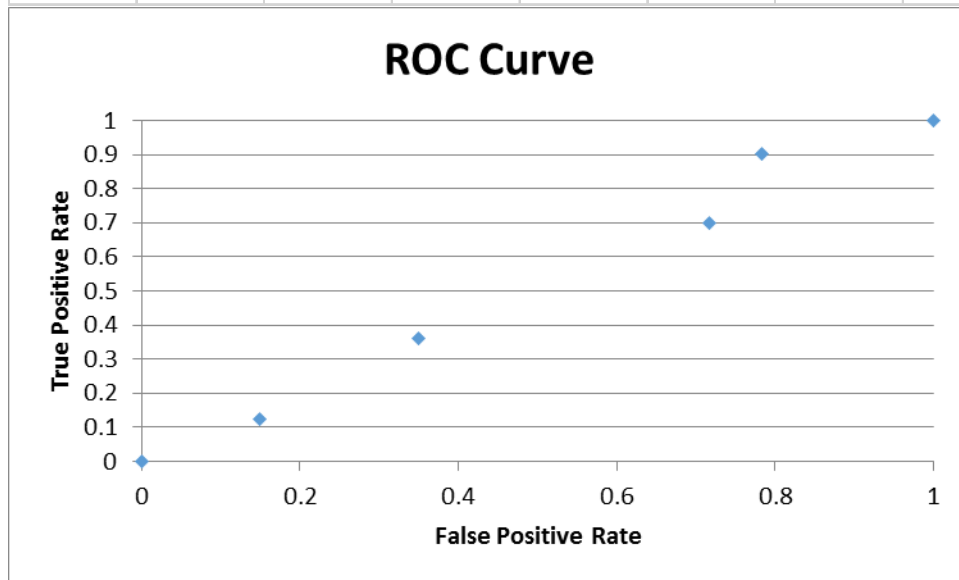
Logistic Regression										
23. School Reputation										
School Reput	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	27	13	40	0.675	0.705682	28.22729	11.77271	-25.3122	67.5	0.181306
2	37	8	45	0.822222	0.755386	33.99235	11.00765	-21.6441	82.22222	1.087906
3	73	21	94	0.776596	0.799085	75.11398	18.88602	-50.0754	77.65957	0.296119
3.1	1	0	1	1	0.803117	0.803117	0.196883	-0.21926	100	0.245149
4	65	13	78	0.833333	0.836665	65.25991	12.74009	-35.1469	83.33333	0.006337
5	36	5	41	0.878049	0.868375	35.60336	5.396641	-15.2197	87.80488	0.033571
	239	60	299			239	60	-147.618	79.93311	1.850388
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	0.621466	0.374537	2.753254	0.097057	1.861655					
23. School	0.253039	0.119143	4.510662	0.033684	1.287934	1.019716	1.626703			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.216667
0.705682	13	27	13	27	0.783333	0.887029	0.118271
0.755386	8	37	21	64	0.65	0.732218	0.256276
0.799085	21	73	42	137	0.3	0.426778	0
0.803117	0	1	42	138	0.3	0.422594	0.091562
0.836665	13	65	55	203	0.083333	0.150628	0.012552
0.868375	5	36	60	239	0	0	0
							0.695328



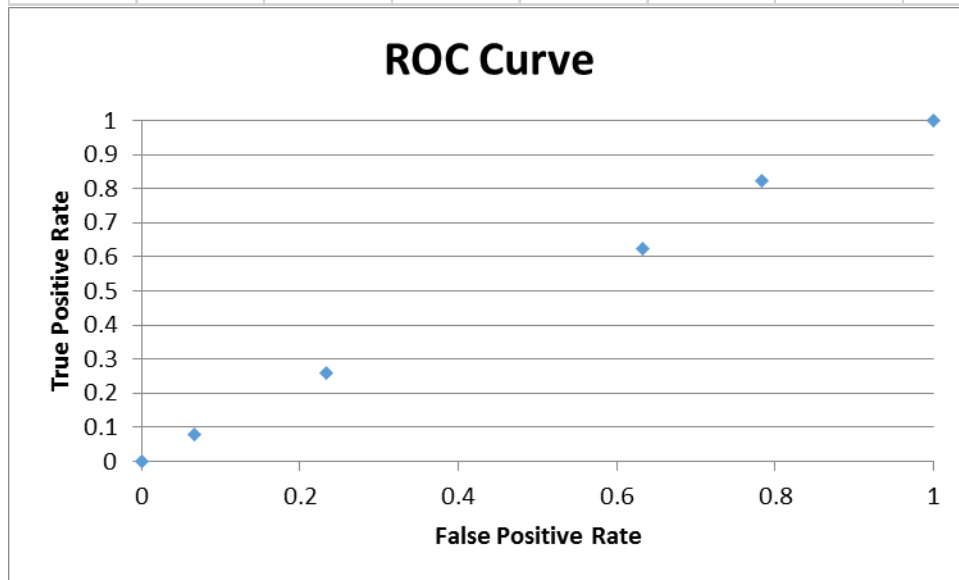
Logistic Regression										
24. District reputation										
istrict repui	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	23	13	36	0.638889	0.778041	28.00946	7.990535	-25.3409	63.88889	4.036496
2	49	4	53	0.924528	0.788653	41.79862	11.20138	-17.851	92.45283	5.87048
3	81	22	103	0.786408	0.79889	82.28563	20.71437	-53.473	78.64078	0.099878
4	56	12	68	0.823529	0.80875	54.99502	13.00498	-31.7369	82.35294	0.096026
5	30	9	39	0.769231	0.818238	31.91127	7.088734	-21.3636	76.92308	0.629787
	239	60	299			239	60	-149.765	79.93311	10.73267
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	1.191743	0.394935	9.105713	0.002548	3.292815					
24. District	0.062542	0.121801	0.263656	0.607619	1.064539	0.838463	1.351572			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.216667
0.778041	13	23	13	23	0.783333	0.903766	0.060251
0.788653	4	49	17	72	0.716667	0.698745	0.256206
0.79889	22	81	39	153	0.35	0.359833	0.071967
0.80875	12	56	51	209	0.15	0.125523	0.018828
0.818238	9	30	60	239	0	0	0
							0.623919



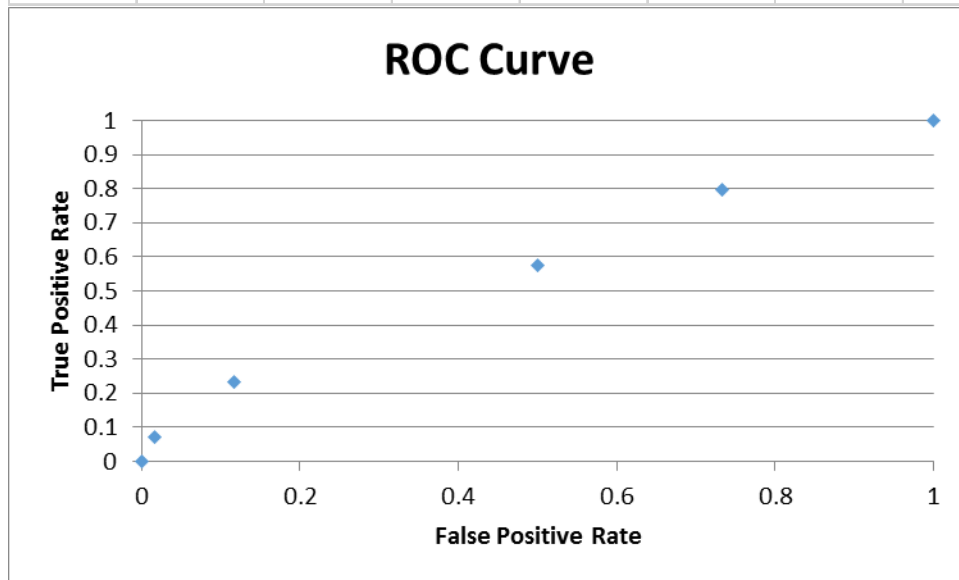
Logistic Regression										
25. Student population / demographics										
Population /	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	42	13	55	0.763636	0.784466	43.14564	11.85436	-30.1459	76.36364	0.141139
2	48	9	57	0.842105	0.793049	45.20377	11.79623	-25.3072	84.21053	0.835803
3	87	24	111	0.783784	0.801376	88.95269	22.04731	-58.0562	78.37838	0.215812
4	43	10	53	0.811321	0.809448	42.90075	10.09925	-25.6686	81.13208	0.001205
5	19	4	23	0.826087	0.817267	18.79715	4.20285	-10.6329	82.6087	0.01198
	239	60	299			239	60	-149.811	79.93311	1.205938
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	1.240372	0.368236	11.34623	0.000756	3.456898					
25. Studer	0.051514	0.124044	0.172464	0.677931	1.052864	0.82563	1.342638			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.216667
0.784466	13	42	13	42	0.783333	0.824268	0.12364
0.793049	9	48	22	90	0.633333	0.623431	0.249372
0.801376	24	87	46	177	0.233333	0.259414	0.043236
0.809448	10	43	56	220	0.066667	0.079498	0.0053
0.817267	4	19	60	239	0	0	0
							0.638215



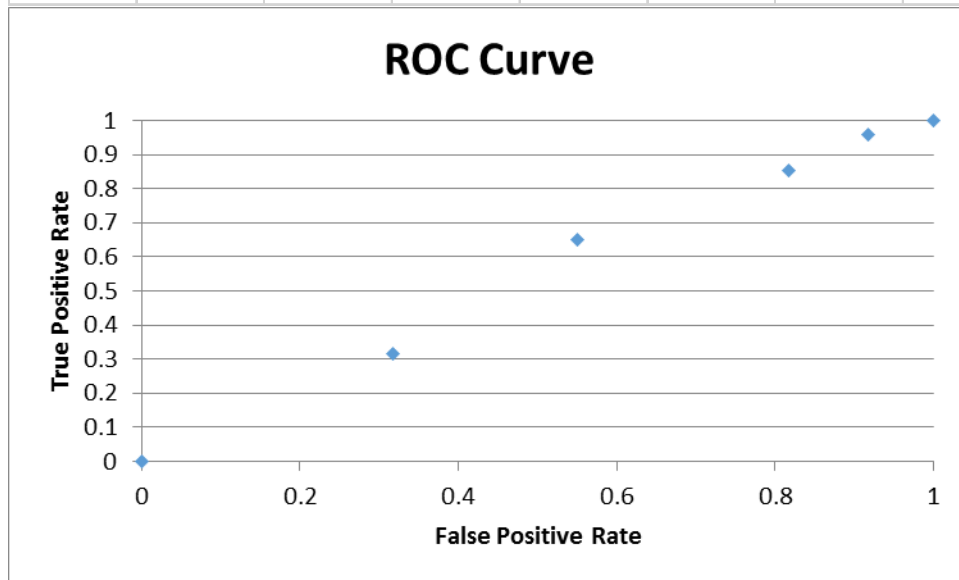
Logistic Regression										
26. School size										
School size	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	49	16	65	0.753846	0.735636	47.81632	17.18368	-36.3308	75.38462	0.110838
2	53	14	67	0.791045	0.778964	52.19059	14.80941	-34.3709	79.10448	0.056791
3	81	23	104	0.778846	0.816958	84.96364	19.03636	-55.4305	77.88462	1.010192
4	39	6	45	0.866667	0.849681	38.23567	6.764334	-17.7228	86.66667	0.101645
5	17	1	18	0.944444	0.877432	15.79378	2.206216	-4.32193	94.44444	0.751603
	239	60	299			239	60	-148.177	79.93311	2.031068
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	0.787174	0.345298	5.197025	0.022626	2.197179					
26. School	0.236233	0.129113	3.347655	0.067301	1.266469	0.983317	1.631157			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.266667
0.735636	16	49	16	49	0.733333	0.794979	0.185495
0.778964	14	53	30	102	0.5	0.573222	0.219735
0.816958	23	81	53	183	0.116667	0.23431	0.023431
0.849681	6	39	59	222	0.016667	0.07113	0.001185
0.877432	1	17	60	239	0	0	0
							0.696513



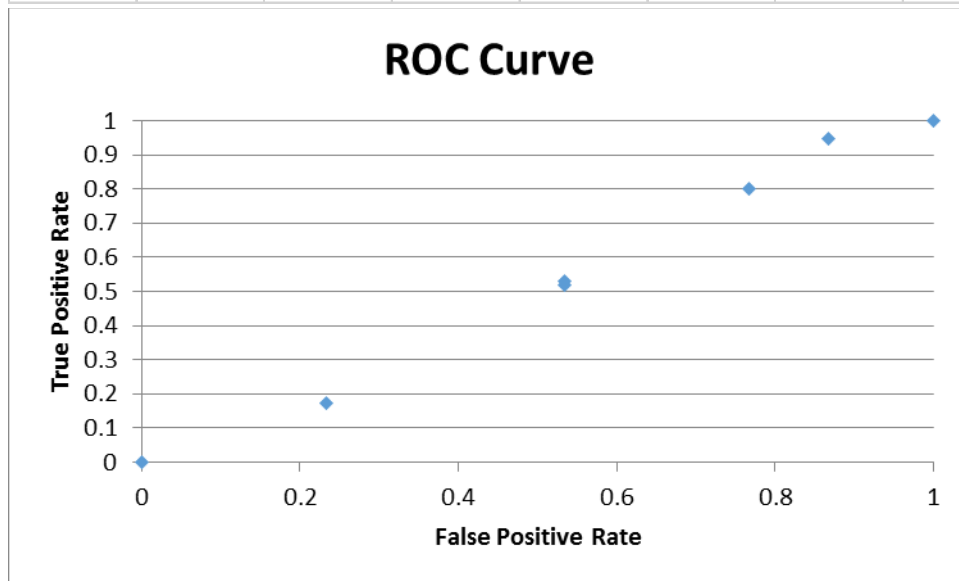
Logistic Regression										
27. Amount of time allotted for planning										
time allotted	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	10	5	15	0.666667	0.738674	11.08011	3.919886	-9.73892	66.66667	0.402914
2	25	6	31	0.806452	0.762546	23.63891	7.361086	-15.404	80.64516	0.330038
3	49	16	65	0.753846	0.784871	51.01664	13.98336	-36.4538	75.38462	0.370551
4	80	14	94	0.851064	0.805633	75.72952	18.27048	-40.2223	85.10638	1.238986
5	75	19	94	0.797872	0.824838	77.53481	16.46519	-47.5415	79.78723	0.473103
	239	60	299			239	60	-149.36	79.93311	2.815592
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	0.911492	0.468012	3.793072	0.051465	2.488032					
27. Amount	0.127597	0.122352	1.087579	0.297008	1.136095	0.893858	1.443979			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.083333
0.738674	5	10	5	10	0.916667	0.958159	0.095816
0.762546	6	25	11	35	0.816667	0.853556	0.227615
0.784871	16	49	27	84	0.55	0.648536	0.151325
0.805633	14	80	41	164	0.316667	0.313808	0.099372
0.824838	19	75	60	239	0	0	0
							0.657462



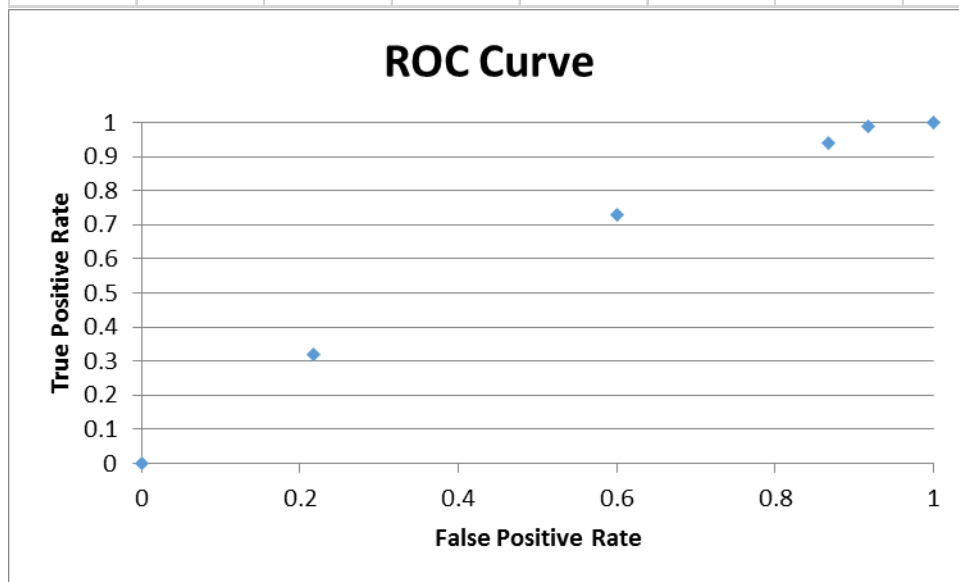
Logistic Regression										
28. Time/quality of professional development										
<i>of professio</i>	<i>Success</i>	<i>Failure</i>	<i>Total</i>	<i>p-Obs</i>	<i>p-Pred</i>	<i>Suc-Pred</i>	<i>Fail-Pred</i>	<i>LL</i>	<i>% Correct</i>	<i>HL Stat</i>
1	13	8	21	0.619048	0.787186	16.5309	4.469098	-15.4895	61.90476	3.54384
2	35	6	41	0.853659	0.792268	32.483	8.517003	-17.579	85.36585	0.938876
3	64	14	78	0.820513	0.797261	62.18632	15.81368	-36.8424	82.05128	0.260908
3.4	3	0	3	1	0.799232	2.397697	0.602303	-0.67231	100	0.753602
4	83	18	101	0.821782	0.802163	81.01844	19.98156	-47.4624	82.17822	0.244975
5	41	14	55	0.745455	0.806975	44.38364	10.61636	-31.8221	74.54545	1.336387
	239	60	299			239	60	-149.868	79.93311	7.078589
	<i>coeff b</i>	<i>s.e.</i>	<i>Wald</i>	<i>p-value</i>	<i>exp(b)</i>	<i>lower</i>	<i>upper</i>			
Intercept	1.277437	0.45236	7.974635	0.004744	3.587435					
28. Time/q	0.030607	0.125783	0.059212	0.807746	1.031081	0.805797	1.319348			

ROC Table							
<i>p-Pred</i>	<i>Failure</i>	<i>Success</i>	<i>Fail-Cum</i>	<i>Suc-Cum</i>	<i>FPR</i>	<i>TPR</i>	<i>AUC</i>
			0	0	1	1	0.133333
0.787186	8	13	8	13	0.866667	0.945607	0.094561
0.792268	6	35	14	48	0.766667	0.799163	0.186471
0.797261	14	64	28	112	0.533333	0.531381	0
0.799232	0	3	28	115	0.533333	0.518828	0.155649
0.802163	18	83	46	198	0.233333	0.171548	0.040028
0.806975	14	41	60	239	0	0	0
							0.610042



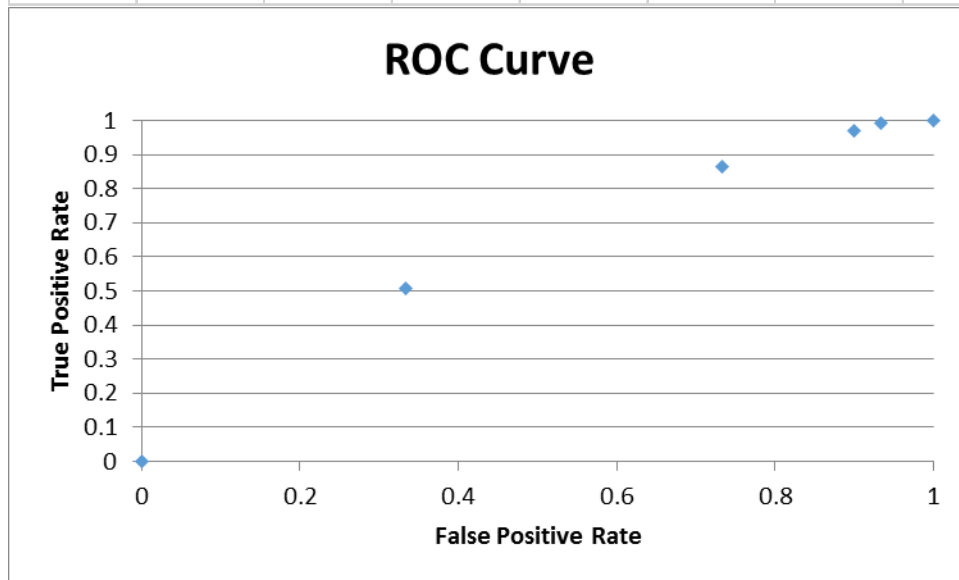
Logistic Regression										
29. Level of teacher autonomy in school-wide decisions										
Autonomy in	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	3	5	8	0.375	0.581665	4.653318	3.346682	-5.98294	37.5	1.40419
2	11	3	14	0.785714	0.669523	9.373327	4.626673	-7.73474	78.57143	0.854213
3	51	16	67	0.761194	0.746957	50.04613	16.95387	-36.8663	76.1194	0.071848
4	98	23	121	0.809917	0.811359	98.17449	22.82551	-58.8483	80.99174	0.001644
5	76	13	89	0.853933	0.86239	76.75274	12.24726	-37.0349	85.39326	0.053647
	239	60	299			239	60	-146.467	79.93311	2.385541
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	-0.04681	0.548825	0.007274	0.932033	0.954271					
29. Level of	0.376419	0.143055	6.923706	0.008506	1.457057	1.1008	1.928612			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.083333
0.581665	5	3	5	3	0.916667	0.987448	0.049372
0.669523	3	11	8	14	0.866667	0.941423	0.251046
0.746957	16	51	24	65	0.6	0.728033	0.279079
0.811359	23	98	47	163	0.216667	0.317992	0.068898
0.86239	13	76	60	239	0	0	0
							0.731729



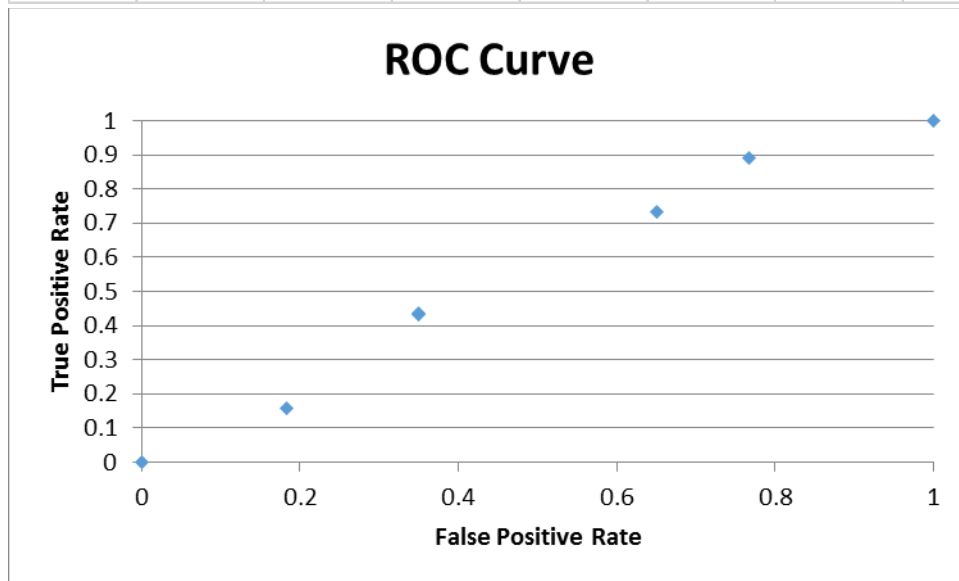
Logistic Regression										
30. Level of teacher autonomy in classroom decisions										
<i>utonomy in</i>	<i>Success</i>	<i>Failure</i>	<i>Total</i>	<i>p-Obs</i>	<i>p-Pred</i>	<i>Suc-Pred</i>	<i>Fail-Pred</i>	<i>LL</i>	<i>% Correct</i>	<i>HL Stat</i>
1	2	4	6	0.333333	0.466205	2.797228	3.202772	-4.03723	66.66667	0.42566
2	5	2	7	0.714286	0.586194	4.103357	2.896643	-4.43524	71.42857	0.473481
3	25	10	35	0.714286	0.696755	24.38643	10.61357	-20.9652	71.42857	0.050908
4	86	24	110	0.781818	0.788438	86.72815	23.27185	-57.72	78.18182	0.028897
5	121	20	141	0.858156	0.858048	120.9848	20.01517	-57.5698	85.8156	1.34E-05
	239	60	299			239	60	-144.728	80.60201	0.978959
	<i>coeff b</i>	<i>s.e.</i>	<i>Wald</i>	<i>p-value</i>	<i>exp(b)</i>	<i>lower</i>	<i>upper</i>			
Intercept	-0.61903	0.622002	0.99046	0.31963	0.538468					
30. Level c	0.483641	0.149536	10.46055	0.00122	1.621969	1.209922	2.174341			

ROC Table							
<i>p-Pred</i>	<i>Failure</i>	<i>Success</i>	<i>Fail-Cum</i>	<i>Suc-Cum</i>	<i>FPR</i>	<i>TPR</i>	<i>AUC</i>
			0	0	1	1	0.066667
0.466205	4	2	4	2	0.933333	0.991632	0.033054
0.586194	2	5	6	7	0.9	0.970711	0.161785
0.696755	10	25	16	32	0.733333	0.866109	0.346444
0.788438	24	86	40	118	0.333333	0.506276	0.168759
0.858048	20	121	60	239	0	0	0
							0.776709



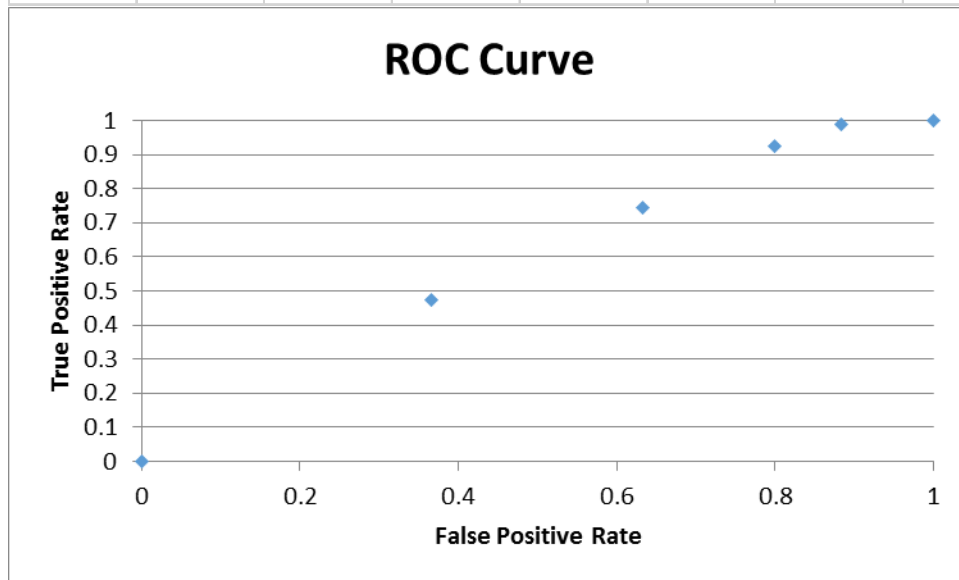
Logistic Regression										
31. Amount / quality of mentoring										
t / quality of	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	26	14	40	0.65	0.737462	29.4985	10.5015	-26.6411	65	1.580418
2	38	7	45	0.844444	0.768618	34.58781	10.41219	-20.2459	84.44444	1.454832
3	71	18	89	0.797753	0.797094	70.94134	18.05866	-44.8118	79.77528	0.000239
3.2	1	0	1	1	0.802464	0.802464	0.197536	-0.22007	100	0.246161
4	65	10	75	0.866667	0.822873	61.71544	13.28456	-29.9809	86.66667	0.986903
5	38	11	49	0.77551	0.846009	41.45444	7.545562	-26.934	77.55102	1.86934
	239	60	299			239	60	-148.834	79.93311	6.137892
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	0.865117	0.375075	5.320022	0.021082	2.375285					
31. Amour	0.167704	0.115124	2.122048	0.145192	1.182586	0.943712	1.481925			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.233333
0.737462	14	26	14	26	0.766667	0.891213	0.103975
0.768618	7	38	21	64	0.65	0.732218	0.219665
0.797094	18	71	39	135	0.35	0.435146	0
0.802464	0	1	39	136	0.35	0.430962	0.071827
0.822873	10	65	49	201	0.183333	0.158996	0.029149
0.846009	11	38	60	239	0	0	0
							0.65795



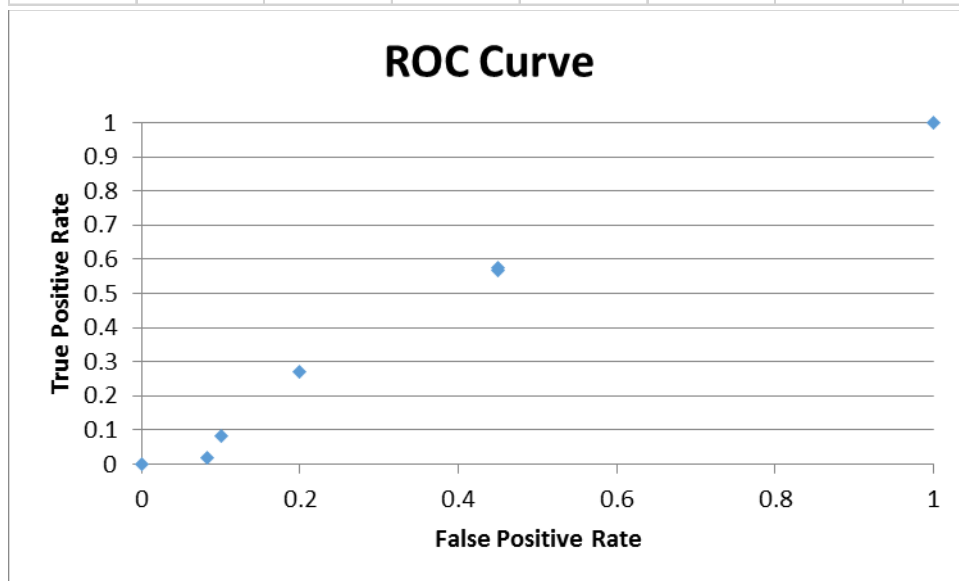
Logistic Regression										
32. Safety (e.g., feeling safe in your school, position, etc)										
safe in yo	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	3	7	10	0.3	0.592692	5.926923	4.073077	-7.85654	30	3.548711
2	15	5	20	0.75	0.672629	13.45259	6.547412	-11.5317	75	0.543709
3	43	10	53	0.811321	0.743663	39.41416	13.58584	-26.3478	81.13208	1.272679
4	65	16	81	0.802469	0.803781	65.10622	15.89378	-40.2542	80.24691	0.000883
5	113	22	135	0.837037	0.852593	115.1001	19.89989	-60.1407	83.7037	0.25995
	239	60	299			239	60	-146.131	79.93311	5.625932
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	0.030111	0.495292	0.003696	0.951523	1.030569					
32. Safety	0.344995	0.124415	7.689253	0.005555	1.411983	1.10644	1.801903			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.116667
0.592692	7	3	7	3	0.883333	0.987448	0.082287
0.672629	5	15	12	18	0.8	0.924686	0.154114
0.743663	10	43	22	61	0.633333	0.74477	0.198605
0.803781	16	65	38	126	0.366667	0.472803	0.173361
0.852593	22	113	60	239	0	0	0
							0.725035



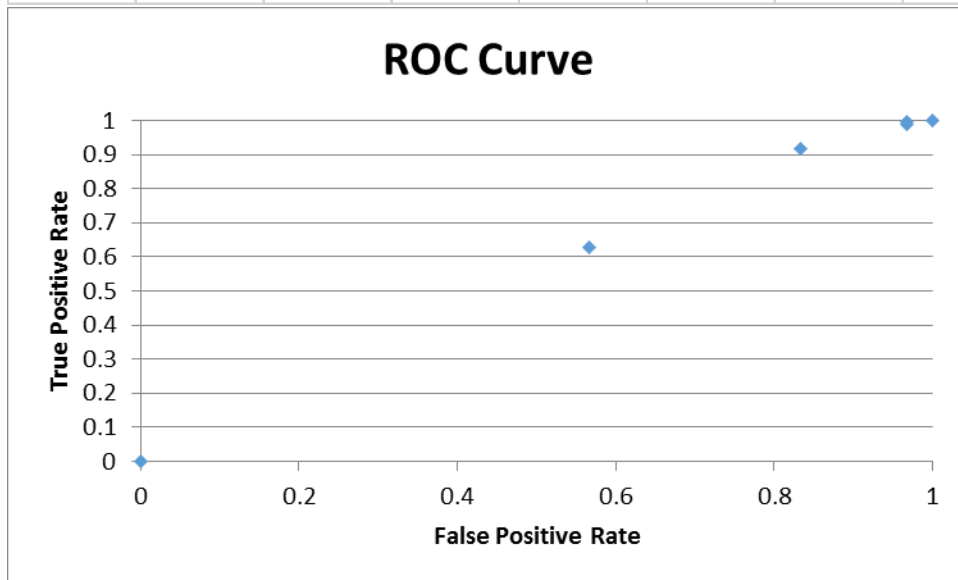
Logistic Regression										
33. Discipline										
3. Disciplin	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	4	5	9	0.444444	0.846352	7.617169	1.382831	-10.0327	44.44444	11.17938
2	16	1	17	0.941176	0.832312	14.14931	2.85069	-4.72241	94.11765	1.443548
3	45	6	51	0.882353	0.817267	41.6806	9.319404	-19.2789	88.23529	1.446666
4	71	15	86	0.825581	0.801193	68.90263	17.09737	-39.9687	82.55814	0.321133
4.1	1	0	1	1	0.799529	0.799529	0.200471	-0.22373	100	0.250737
5	102	33	135	0.755556	0.78408	105.8508	29.14923	-75.3949	75.55556	0.648796
	239	60	299			239	60	-149.621	79.93311	15.29026
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	1.81044	0.606927	8.898068	0.002855	6.113136					
33. Discipl	-0.10417	0.142171	0.536839	0.463746	0.901074	0.681937	1.19063			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.55
0.78408	33	102	33	102	0.45	0.573222	0
0.799529	0	1	33	103	0.45	0.569038	0.142259
0.801193	15	71	48	174	0.2	0.271967	0.027197
0.817267	6	45	54	219	0.1	0.083682	0.001395
0.832312	1	16	55	235	0.083333	0.016736	0.001395
0.846352	5	4	60	239	0	0	0
							0.722245



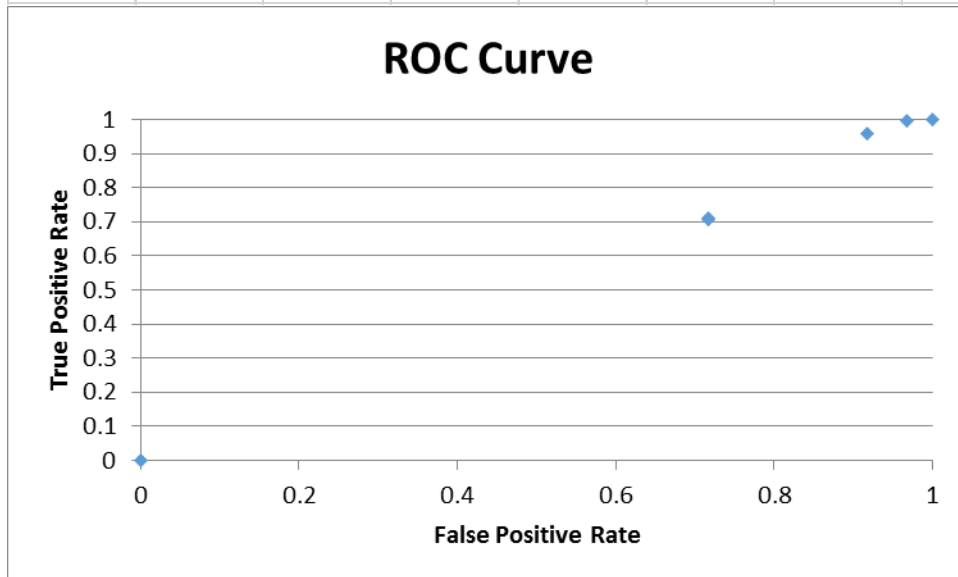
Logistic Regression										
35. My principal's interest in teacher success										
interest in	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	1	2	3	0.333333	0.583469	1.750406	1.249594	-2.29035	33.33333	0.772336
2	2	0	2	1	0.655009	1.310017	0.689983	-0.84621	100	1.053395
3	17	8	25	0.68	0.720155	18.00386	6.996137	-15.7691	68	0.200016
4	69	16	85	0.811765	0.777184	66.0606	18.9394	-41.4159	81.17647	0.586987
5	150	34	184	0.815217	0.825408	151.8751	32.12488	-88.1219	81.52174	0.132601
	239	60	299			239	60	-148.444	79.93311	2.745334
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	0.032929	0.779714	0.001784	0.966313	1.033477					
35. My pri	0.3041	0.174607	3.033242	0.081575	1.355404	0.962593	1.908512			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.033333
0.583469	2	1	2	1	0.966667	0.995816	0
0.655009	0	2	2	3	0.966667	0.987448	0.13166
0.720155	8	17	10	20	0.833333	0.916318	0.244351
0.777184	16	69	26	89	0.566667	0.627615	0.355649
0.825408	34	150	60	239	0	0	0
							0.764993



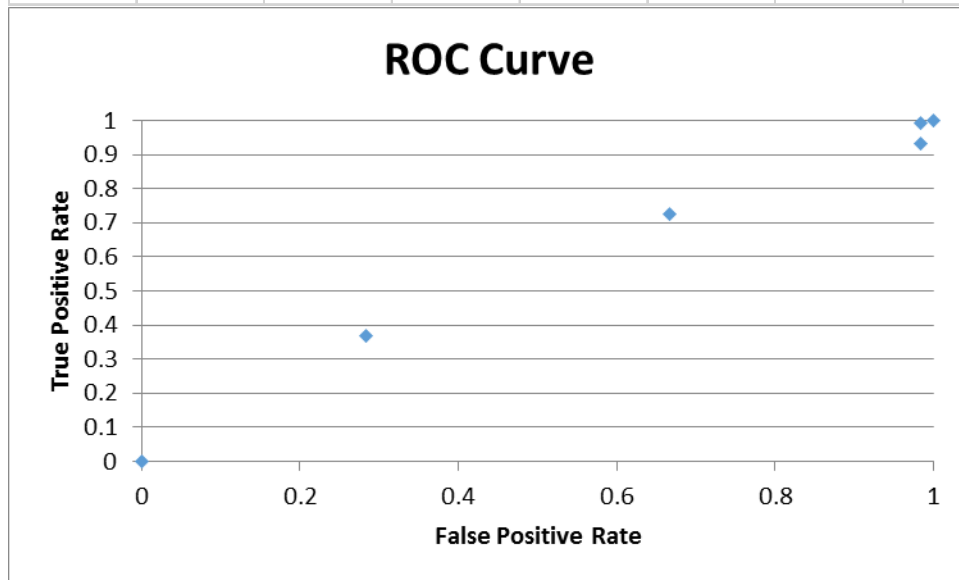
Logistic Regression										
36. My principal's interest in student success										
<i>interest in</i>	<i>Success</i>	<i>Failure</i>	<i>Total</i>	<i>p-Obs</i>	<i>p-Pred</i>	<i>Suc-Pred</i>	<i>Fail-Pred</i>	<i>LL</i>	<i>% Correct</i>	<i>HL Stat</i>
1	1	2	3	0.333333	0.66079	1.982369	1.017631	-2.57659	33.33333	1.435144
3	9	3	12	0.75	0.743167	8.918008	3.081992	-6.7495	75	0.002935
4	59	12	71	0.830986	0.779084	55.31497	15.68503	-32.8482	83.09859	1.111249
4.6	1	0	1	1	0.798837	0.798837	0.201163	-0.2246	100	0.25182
5	169	43	212	0.79717	0.811254	171.9858	40.01419	-107.047	79.71698	0.274634
	239	60	299			239	60	-149.446	79.93311	3.075782
	<i>coeff b</i>	<i>s.e.</i>	<i>Wald</i>	<i>p-value</i>	<i>exp(b)</i>	<i>lower</i>	<i>upper</i>			
Intercept	0.468974	0.945004	0.246281	0.619706	1.598354					
36. My prii	0.197841	0.203416	0.945938	0.330755	1.218768	0.818038	1.815804			

ROC Table							
<i>p-Pred</i>	<i>Failure</i>	<i>Success</i>	<i>Fail-Cum</i>	<i>Suc-Cum</i>	<i>FPR</i>	<i>TPR</i>	<i>AUC</i>
			0	0	1	1	0.033333
0.66079	2	1	2	1	0.966667	0.995816	0.049791
0.743167	3	9	5	10	0.916667	0.958159	0.191632
0.779084	12	59	17	69	0.716667	0.711297	0
0.798837	0	1	17	70	0.716667	0.707113	0.506764
0.811254	43	169	60	239	0	0	0
							0.78152



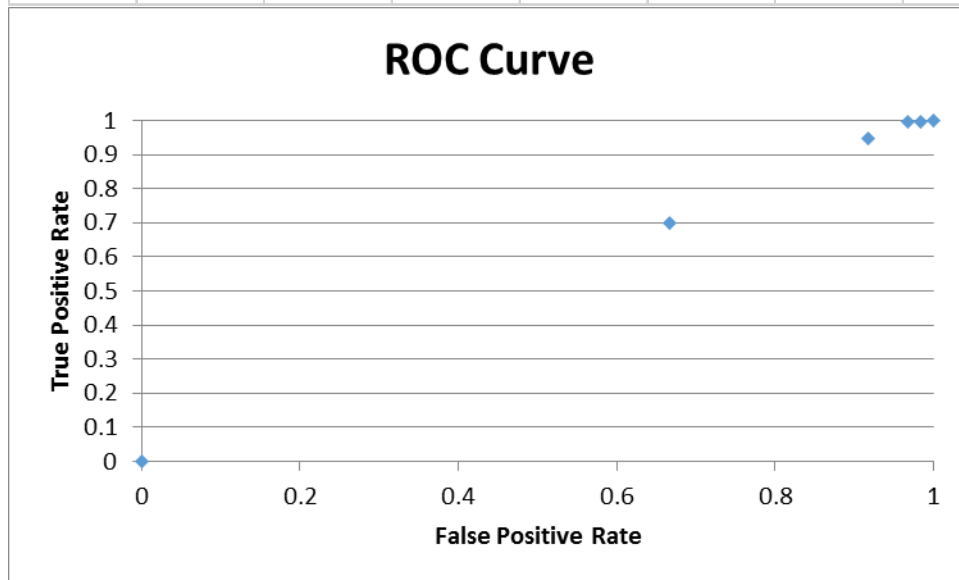
Logistic Regression										
37 My principal's understanding of my personal priorities										
standing o	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	2	1	3	0.666667	0.739421	2.218263	0.781737	-1.94862	66.66667	0.082415
2	14	0	14	1	0.760835	10.65169	3.348313	-3.82675	100	4.400842
3	50	19	69	0.724638	0.78101	53.88968	15.11032	-41.2142	72.46377	1.282032
4	85	23	108	0.787037	0.799931	86.39252	21.60748	-55.9837	78.7037	0.112188
5	88	17	105	0.838095	0.817599	85.84785	19.15215	-46.648	83.80952	0.295793
	239	60	299			239	60	-149.621	79.93311	6.17327
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	0.928662	0.619943	2.243939	0.134139	2.531119					
37 My prin	0.1143	0.153091	0.557435	0.455296	1.121088	0.830479	1.51339			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.016667
0.739421	1	2	1	2	0.983333	0.991632	0
0.760835	0	14	1	16	0.983333	0.933054	0.295467
0.78101	19	50	20	66	0.666667	0.723849	0.277476
0.799931	23	85	43	151	0.283333	0.368201	0.104324
0.817599	17	88	60	239	0	0	0
							0.693933



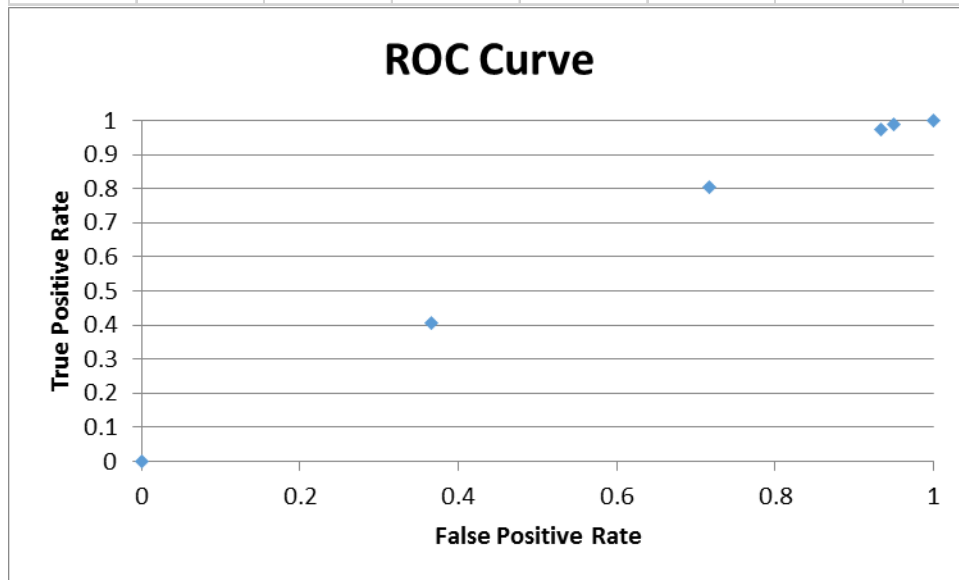
Logistic Regression										
38. My principal's investment in school culture / morale										
Investment in school culture / morale	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	1	1	2	0.5	0.646916	1.293832	0.706168	-1.47659	50	0.188991
2	0	1	1	0	0.694661	0.694661	0.305339	-1.18633	0	2.275048
3	12	3	15	0.8	0.738559	11.07838	3.921617	-7.66129	80	0.293259
4	59	15	74	0.797297	0.778161	57.58392	16.41608	-37.3855	79.72973	0.156976
5	167	40	207	0.806763	0.813281	168.3492	38.6508	-101.641	80.67633	0.05791
	239	60	299			239	60	-149.351	79.93311	2.972184
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	0.38902	0.93587	0.172787	0.677646	1.475534					
38. My principal's investment in school culture / morale	0.216491	0.202777	1.139833	0.285688	1.241711	0.834481	1.847671			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.016667
0.646916	1	1	1	1	0.983333	0.995816	0.016597
0.694661	1	0	2	1	0.966667	0.995816	0.049791
0.738559	3	12	5	13	0.916667	0.945607	0.236402
0.778161	15	59	20	72	0.666667	0.698745	0.46583
0.813281	40	167	60	239	0	0	0
							0.785286



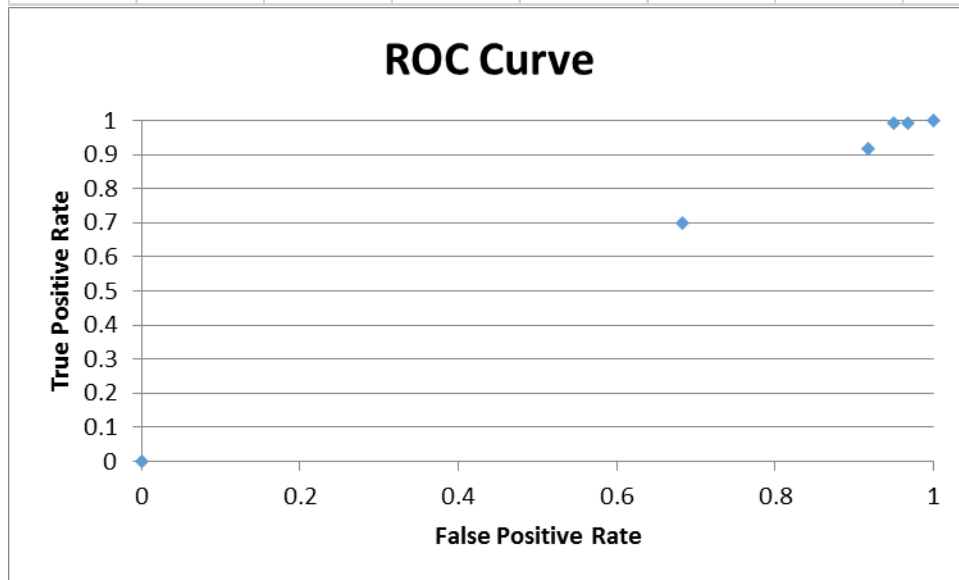
Logistic Regression										
39. My principal's ability to disagree / agree										
s ability to	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	3	3	6	0.5	0.653458	3.920749	2.079251	-4.45569	50	0.623962
2	3	1	4	0.75	0.706332	2.825329	1.174671	-2.26831	75	0.036772
3	41	13	54	0.759259	0.754174	40.72539	13.27461	-29.8081	75.92593	0.007532
4	95	21	116	0.818966	0.796468	92.39023	23.60977	-55.0496	81.89655	0.362197
5	97	22	119	0.815126	0.833095	99.1383	19.8617	-57.1002	81.51261	0.276329
	239	60	299			239	60	-148.682	79.93311	1.306791
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	0.390913	0.63589	0.377918	0.53872	1.47833					
39. My pri	0.243362	0.154135	2.492884	0.114362	1.27553	0.942954	1.725404			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.05
0.653458	3	3	3	3	0.95	0.987448	0.016457
0.706332	1	3	4	6	0.933333	0.974895	0.211227
0.754174	13	41	17	47	0.716667	0.803347	0.281172
0.796468	21	95	38	142	0.366667	0.405858	0.148815
0.833095	22	97	60	239	0	0	0
							0.707671



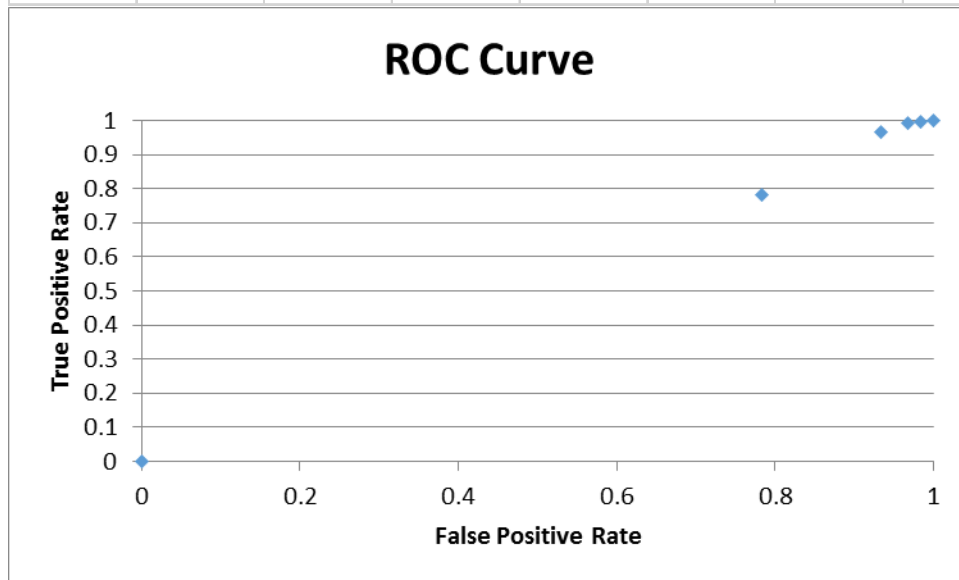
Logistic Regression										
40. My principal's communication										
<i>Principal's communication</i>	<i>Success</i>	<i>Failure</i>	<i>Total</i>	<i>p-Obs</i>	<i>p-Pred</i>	<i>Suc-Pred</i>	<i>Fail-Pred</i>	<i>LL</i>	<i>% Correct</i>	<i>HL Stat</i>
1	2	2	4	0.5	0.709576	2.838304	1.161696	-3.159	50	0.852535
2	0	1	1	0	0.737044	0.737044	0.262956	-1.33577	0	2.802925
3	18	2	20	0.9	0.762783	15.25567	4.744331	-7.75162	90	2.081118
4	52	14	66	0.787879	0.786732	51.92431	14.07569	-34.106	78.78788	0.000517
5	167	41	208	0.802885	0.808869	168.2447	39.75533	-103.27	80.28846	0.048177
	239	60	299			239	60	-149.623	79.93311	5.785271
	<i>coeff b</i>	<i>s.e.</i>	<i>Wald</i>	<i>p-value</i>	<i>exp(b)</i>	<i>lower</i>	<i>upper</i>			
Intercept	0.755989	0.838102	0.813649	0.367044	2.129716					
40. My principal's communication	0.137337	0.181981	0.569539	0.450442	1.147215	0.803049	1.638882			

ROC Table							
<i>p-Pred</i>	<i>Failure</i>	<i>Success</i>	<i>Fail-Cum</i>	<i>Suc-Cum</i>	<i>FPR</i>	<i>TPR</i>	<i>AUC</i>
			0	0	1	1	0.033333
0.709576	2	2	2	2	0.966667	0.991632	0.016527
0.737044	1	0	3	2	0.95	0.991632	0.033054
0.762783	2	18	5	20	0.916667	0.916318	0.213808
0.786732	14	52	19	72	0.683333	0.698745	0.477476
0.808869	41	167	60	239	0	0	0
							0.774198



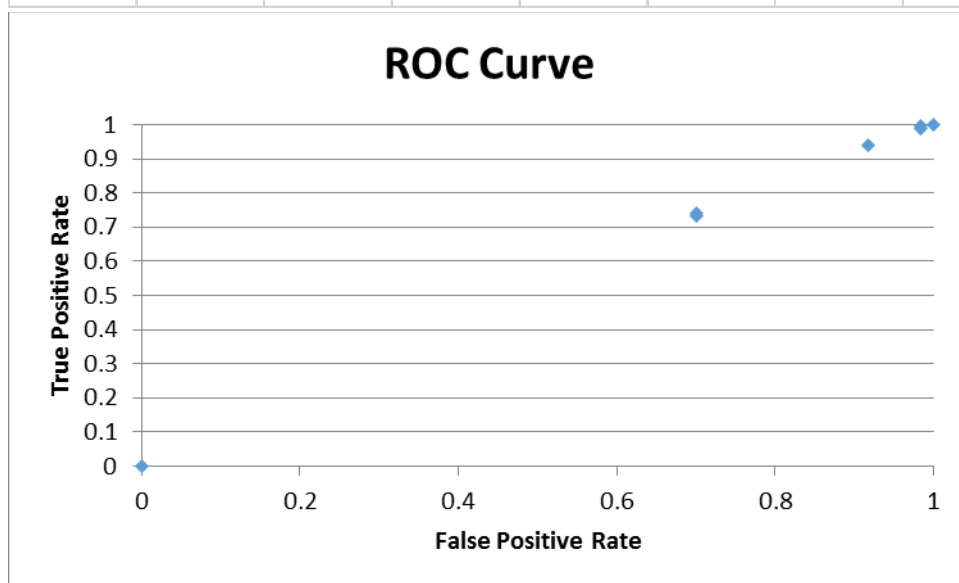
Logistic Regression										
41. My principal's honesty / integrity										
pal's honest	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	1	1	2	0.5	0.678799	1.357598	0.642402	-1.52312	50	0.293253
2	1	1	2	0.5	0.714923	1.429847	0.570153	-1.59058	50	0.45329
3	6	2	8	0.75	0.74849	5.987923	2.012077	-4.49873	75	9.68E-05
4	44	9	53	0.830189	0.779325	41.30422	11.69578	-24.57	83.01887	0.797298
5	187	47	234	0.799145	0.807352	188.9204	45.07959	-117.421	79.91453	0.101332
	239	60	299			239	60	-149.603	79.93311	1.64527
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	0.577099	1.031857	0.312796	0.57597	1.780864					
41. My principal's honesty / integrity	0.17116	0.218093	0.615913	0.43257	1.18668	0.773914	1.819594			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.016667
0.678799	1	1	1	1	0.983333	0.995816	0.016597
0.714923	1	1	2	2	0.966667	0.991632	0.033054
0.74849	2	6	4	8	0.933333	0.966527	0.144979
0.779325	9	44	13	52	0.783333	0.782427	0.612901
0.807352	47	187	60	239	0	0	0
							0.824198



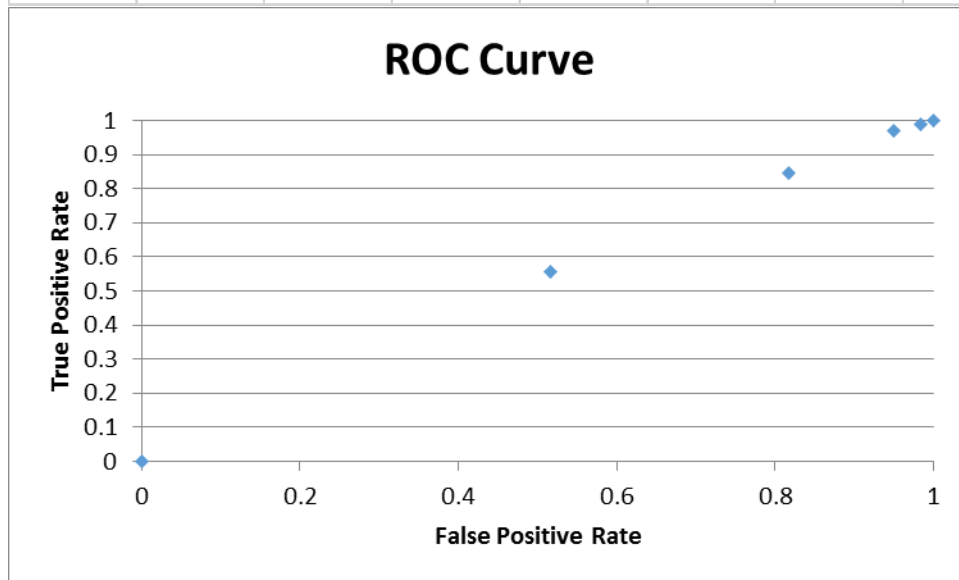
Logistic Regression										
42. My principal's respect for me										
Principal's resp	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	1	1	2	0.5	0.687687	1.375373	0.624627	-1.53817	50	0.328031
2	2	0	2	1	0.721695	1.443391	0.556609	-0.6523	100	0.771253
3	11	4	15	0.733333	0.753329	11.29994	3.700064	-8.71458	73.33333	0.032275
4	48	13	61	0.786885	0.782451	47.72951	13.27049	-31.6049	78.68852	0.007046
4.6	2	0	2	1	0.798693	1.597385	0.402615	-0.44956	100	0.504092
5	175	42	217	0.806452	0.809006	175.5544	41.44559	-106.623	80.64516	0.009167
	239	60	299			239	60	-149.582	79.93311	1.651864
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	0.625766	0.940678	0.442529	0.505904	1.869677					
42. My pri	0.16356	0.201946	0.655974	0.417985	1.177696	0.792751	1.749564			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.016667
0.687687	1	1	1	1	0.983333	0.995816	0
0.721695	0	2	1	3	0.983333	0.987448	0.06583
0.753329	4	11	5	14	0.916667	0.941423	0.203975
0.782451	13	48	18	62	0.7	0.740586	0
0.798693	0	2	18	64	0.7	0.732218	0.512552
0.809006	42	175	60	239	0	0	0
							0.799024



Logistic Regression										
43. My principal has an open door										
Principal has a	Success	Failure	Total	p-Obs	p-Pred	Suc-Pred	Fail-Pred	LL	% Correct	HL Stat
1	3	1	4	0.75	0.729408	2.917634	1.082366	-2.25371	75	0.008593
2	4	2	6	0.666667	0.752025	4.512152	1.487848	-3.9288	66.66667	0.234426
3	30	8	38	0.789474	0.773339	29.38689	8.613112	-19.5855	78.94737	0.056435
4	69	18	87	0.793103	0.793325	69.01923	17.98077	-44.354	79.31034	2.59E-05
5	133	31	164	0.810976	0.811976	133.1641	30.83591	-79.5086	81.09756	0.001075
	239	60	299			239	60	-149.631	79.93311	0.300556
	coeff b	s.e.	Wald	p-value	exp(b)	lower	upper			
Intercept	0.873804	0.698897	1.563155	0.211204	2.396007					
43. My pri	0.11782	0.159478	0.545799	0.460039	1.125041	0.823039	1.537859			

ROC Table							
p-Pred	Failure	Success	Fail-Cum	Suc-Cum	FPR	TPR	AUC
			0	0	1	1	0.016667
0.729408	1	3	1	3	0.983333	0.987448	0.032915
0.752025	2	4	3	7	0.95	0.970711	0.129428
0.773339	8	30	11	37	0.816667	0.845188	0.253556
0.793325	18	69	29	106	0.516667	0.556485	0.287517
0.811976	31	133	60	239	0	0	0
							0.720084



Appendix K



Office of Research Development, Integrity, and Assurance

Research Hall, 4400 University Drive, MS
6D5, Fairfax, Virginia 22030 Phone: 703-993-5445; Fax: 703-993-9590

DATE: March 8, 2019
TO: Robert Smith, Ph.D.
FROM: George Mason University IRB
Project Title: [1385495-1] Teacher Retention and Attrition: A

Leadership Issue SUBMISSION TYPE: New Project

ACTION: APPROVED
APPROVAL DATE: March 8, 2019
REVIEW TYPE: Expedited Review
REVIEW TYPE: Expedited review category # 7

Thank you for your submission of New Project materials for this project. The George Mason University IRB has APPROVED your submission. This submission has received Expedited Review based on applicable federal regulations.

Please remember that all research must be conducted as described in the submitted materials.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by a signed consent form unless the IRB has waived the requirement for a signature on the consent form or has waived the requirement for a consent process.

Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require that each participant receives a copy of the consent document.

Please note that any revision to previously approved materials must be approved by the IRB prior to initiation. Please use the appropriate revision forms for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to the IRB office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed (if applicable).

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to the IRB.

This study does not have an expiration date but you will receive an annual reminder regarding future requirements.

Please note that all research records must be retained for a minimum of five years, or as described in your submission, after the completion of the project.

Please note that department or other approvals may be required to conduct your research in addition to IRB approval.

If you have any questions, please contact Kim Paul at (703) 993-4208 or kpaul4@gmu.edu. Please include your project title and reference number in all correspondence with this committee.

GMU IRB Standard Operating Procedures can be found here:
<https://rdia.gmu.edu/topics-of-interest/human-or-animal-subjects/human-subjects/human-subjects-sops/>

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within George Mason University IRB's records.

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Biography

Amanda Rochelle Cassels Wagner graduated from Clarion University of Pennsylvania, Clarion, PA in 2007 with a B.S. Liberal Studies; in 2008 with a B.S. Elementary Education. She received her M.S. Education: Reading and Literacy degree from Capella University, Minneapolis, MN in 2012. She earned her Administration and Supervision certification through George Mason University and holds certifications in Elementary Education, English, Reading Specialist and Superintendent. She has experience as a teacher, Reading Specialist, Instructional Coach, Supervisor of Professional Learning, and Executive Director of the Manassas City Public Schools Education Foundation, Fine Arts and Pre-Kindergarten Coordinator. She is currently employed as a principal at Baldwin Intermediate School.