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RURAL SCHOOL TEACHERS, NEED SUPPORT, AND WILLINGNESS TO STAY IN THE SCHOOL DISTRICT

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Dedication

I dedicate this dissertation to all the rural school leaders whose mission is to provide a quality educational experience for all their students. The work that you do matters and remember that your school's environment does not dictate the opportunities you provide to students and staff. You can be the difference and maybe the only chance that student has. Make it count and keep up the good work.

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I would like to thank my wife, Liz, for putting up with me over these last six years. You have been a motivating force, provided unwavering support, and acted as a single mother to our perfect daughter Whitlea more often than not. You lived life, so that I could live my dream.

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Abstract

This study aims to understand the extent of perceived need-support (autonomy-support, competence-support, relatedness-support) of novice teachers in rural schools and whether need-support is related to a novice teacher's willingness to stay in the district. Using self-determination theory (Deci & Ryan, 2000) as the conceptual framework, this research asserted that the social context of the school environment can either support or thwart a teacher's intrinsic motivation by how they experienced support for their basic psychological needs. To measure the extent that novice teachers experienced support for their needs, and whether that support was related to their intent to stay, this research operationalized autonomy-support by enabling school structure, competence-support by professional development opportunities, and relational-support by faculty trust in colleagues and principals. This study used a cross-sectional, non-experimental, design to address the research questions.

Results indicate that autonomy-support and relational-support were experienced by novice teachers at a high level in rural schools, but competence-support was not experienced at the same level. This study also found that relational-support accounted for nearly 8% of the explained variance in a novice teacher's willingness to stay in the district. Collectively, the need-supporting conditions accounted for approximately 14% of the variance in willingness to stay. These findings provide school leaders with evidence that controllable social conditions are essential resources for retaining novice teachers .

Chapter 1: Introduction

At a time when record numbers of teachers are leaving the profession, retaining effective, young educators is a primary concern for school leaders (Ballard, 2014; Guarino, Santibanez, & Daley, 2006). Rural schools in particular face challenges, such as lower pay, geographic and social isolation, difficult working conditions, and teacher qualification requirements that add an extra layer to the problem of attracting, developing, and retaining quality teachers (Collins, 1999; Jimerson, 2004; Monk 2007; Reeves, 2003). School leaders have attempted different methods to support the motivation and capacity of novice teachers to remain in the profession (DeAngelis, Wall, & Che, 2013). Even with these efforts, an alarming number of teacher vacancies persist, teacher moral is at an all time low, and novice teachers continue to leave the profession at staggering rates (Ingersoll & May, 2011).

Behavior and motivation science can alter how school leaders come to view the problem of teacher attrition. Instead of looking for external programs or interventions to adopt, school leaders need to understand the social and psychological source of motivated, committed, and inspired teaching. With knowledge of social and psychological factors behind behaviors, school leaders are better able to organize their environments in ways that support continuous teacher growth (Deci & Ryan, 2000). An understanding of behavior and motivation affords a deeper level of explanation of the problem by targeting the underlying reasons for why novice teachers tend to leave at high rates.

Knowledge of social and psychological sources of motivation and quality performance is particularly crucial in the rural context. Rural schools are one of the

most understudied settings in public education (Hardre' & Sullivan, 2006). By observation alone, rural schools are inheritably different from other school contexts (Howley, Theobald, & Howley, 2005). The exact nature of this difference is difficult to pinpoint, partly because only 6% of the empirical studies of schools are done in rural settings (Hardre' & Sullivan, 2006). Studies relevant to rural schools and the challenges they face are rare (Arnold, Newman, Gaddy, & Dean, 2005; DeYoung, 1987), limiting our knowledge of how many findings in the general educational literature apply to the rual context. We do not know, for instance, if teachers in rural schools experience their environments as supporting their growth and development, or if they find them impersonal and devoid of essential resources. On one hand, limited resources and isolation make some common professional supports difficult; on the other hand, the perceived challenges associated with size and isolation may actually create ideal working environments for some teachers. As it stands, the social organization of rural schools and how teachers experience these conditions has not been examined.

This study draws on self-determination theory as a theoretical lens to explain how features of a rural school context can support teacher autonomous motivation and willingness to stay in the district. There are many theories that explain workplace motivation including Bandura's self-efficacy theory (1977), Atkinson and McClelland's achievement theory (1953), and Vroom's expectancy theory (1964), but none of these explicitly address the dialectic between one's social context and human needs. Specifically, basic psychological needs theory, a mini-theory of self-determination theory, provides the lens to examine how a supportive social context of the workplace

and basic psychological needs (competence, autonomy, relatedness) interact to enhance the engagement and commitment of individuals (Deci & Ryan, 2000).

Research Problem

This research investigated the extent to which novice teachers in rural schools experienced support for their basic psychological needs. While it is imperative to motivate all teachers in every type of school, this research gives particular focus to novice teachers in rural school districts for the following reasons. First, rural, novice teacher attrition is over 50% in the first five years of teaching, making it crucial to understand reasons behind such a high statistic (Ingersoll & Strong, 2011; Lusi et al., 2004). Additionally, teacher attrition rates are 1.08 times higher at schools with under 1,000 students (Borman & Dowling, 2008). Second, rural schools tend to have a unique context and lower salary schedules than urban or suburban districts, making retaining novice teachers even more challenging (Jimerson, 2003; Snyder, 2010). Finally, existing studies on teacher attrition have investigated the social context of urban and suburban districts, but fewer than 6% of educational research examines rural schools and districts (Hardre' & Sullivan, 2006), leaving a knowledge-gap in our understanding of schools that serve over half of the student population in the U.S. (Aud et al., 2013).

The research problem extends from the above points: there is no strong explanatory evidence on factors related to novice rural teachers leaving a school. On the surface, rural districts seem to possess a favorable social context that can support teachers. For instance, smaller student enrollment, fewer discipline problems, and a mostly homogeneous population (Monk, 1987; Gibbs, 2000; Haller, 1992; Hammer,

Hughes, McClure, Reeves, & Salgado, 2005). However, rural schools encounter difficulties as well. Limited human and financial resources, burdensome state and federal mandates, and isolation can thwart the ability of rural school districts to support the personal and professional needs of teachers (Hammer et al., 2005). Adding to these limitations, teachers who work in rural districts have fewer opportunities for mentoring and induction programs than teachers in suburban areas (Johnson, Karods, Dauffman, Liu, & Donalson, 2004; Wei, Darling-Hammond, & Adamson, 2010).

As it stands, evidence on how teachers experience personal and professional support in rural schools is lacking. Further, factors capable of increasing novice teachers' willingness to stay in the school are unknown. Thus, this study explored the perceived autonomy, competence, and relatedness support of novice teachers in rural schools and examined the relationship between need-support and novice teachers' willingness to stay in the district.

Research Purpose

The purpose of this research was to explore perceived need-support of novice teachers in rural schools. To do this, characteristics of rural districts were described, literature about novice teachers was examined, and evidence from self-determination theory was synthesized. Three questions in particular guided the research:

1. To what extent do novice teachers in rural school districts experience support for their basic psychological needs (competence, autonomy, relatedness)?
2. Does perceived need-support of novice teacher's basic psychological needs in rural school districts differ by enrollment size?

3. Is perceived need-support of novice teacher's basic psychological needs related to their willingness to stay in the rural school district?

Definition of Terms

The following are key terms utilized throughout the study:

Rural Schools: Rural schools are defined by their location. They are located at least 5 miles from an urbanized area and 2.5 miles from an urban cluster. They are categorized into Fringe Rural, Distant Rural, Remote Rural (National Center for Education Statistics, 2014).

Novice Teachers: A teacher with traditional, alternative, or emergency certification with 5 or less years of full-time teaching experience.

Need-Support: Interactions that can either activate or suppress the psychological state. These interactions derive from the social environment in which the teacher works (Assor, Kaplan, & Roth, 2002). Need-supports are autonomy-support, competence-support, relatedness-support.

Willingness to Stay: The willingness to stay in the district determines the novice teachers' desire to remain within their current district.

Overview of the Dissertation

There is evidence that the social context of a school can either support or thwart a teacher's basic psychological needs, which in turn, plays a factor in willingness to stay in the current district (Adams, Forsyth, Ware, Dollarhide, & Miskel, 2015; Deci & Ryan, 2013). The beginning chapters of this dissertation describe previous research on

the context of rural schools and characteristics of novice teachers. The literature presents a mixed picture of rural schools. Their isolation, size, and funding limits access to resources and constrains opportunities for teachers and students (Boyd, 2003; Hammer et al., 2005; Jimerson, 2003). These same features of isolation, size, and funding may also be assets as it creates an environment where teachers must rely on colleagues and support from administrators (Borman & Dowling, 2008; Guarino et al., 2006; Sutcher, Darling-Hammond, & Carver-Thomas, 2016).

The theoretical framework follows the literature review. Self-determination theory, more specifically basic needs theory, is used to provide the lens to examine how a supportive social context of the workplace and basic psychological needs (competence, autonomy, relatedness) interact to enhance the engagement and commitment of individuals (Deci & Ryan, 2000). The methods chapter describes the empirical study focusing on the research design, data source, measures, and analysis. The results chapter presents evidence related to the three research questions. The dissertation concludes with a discussion of links found between what was known of need-supports for novice teachers and how that is experienced in rural schools and whether that influences a teacher's willingness to stay in their district.

Chapter 2: Review of Literature

Three areas of scholarly literature inform this study. The first is the descriptive characteristics of rural school districts and the unique challenges and advantages for teachers who work in rural settings. Second is evidence on novice teachers, their characteristics and general professional needs. The third covers factors related to the high attrition rates of novice teachers.

Rural School Districts

Definition of Rural School Districts

Descriptions of rural schools have varied depending on the characteristics used to examine them (Brown & Swanson, 2004; Yang & Fetsch, 2007). Some of the variations in definitions based on characteristics include district size, proximity to urban centers, and industrial base (Coladarci, 2007; Howley, Theobald & Howley, 2005). However, the classification used in this literature is the distance of the district to the closest densely populated area. In 2006, the National Center for Education Statistics adopted a definition for a rural district used by the Census Bureau and the Office of Management and Budget (Aud et al., 2013). The Office of Management and Budget (2000) uses the following criteria to define rural locations and populations:

- Core areas with populations of 50,000 or more are designated as urbanized areas; those with populations between 25,000 and 50,000 are designated as urban clusters.
- Fringe rural: ≤ 5 miles from an urbanized area and ≤ 2.5 miles from an urban cluster.

- Distant rural: > 5 miles but ≤ 25 miles from an urbanized area and is > 2.5 miles but ≤ 10 miles from an urban cluster.
- Remote rural: > 25 miles from an urbanized area and is >10 miles from an urban cluster. (National Center for Education Statistics, 2014)

Using this definition, research shows in 2011 that 57% of all districts, 32% of all public schools, and 24% of all student enrollment in the United States were classified as Rural (Aud et al., 2013).

Challenges Facing Rural School Districts

Rural districts face many challenges that in some cases are similar to struggles experienced by suburban and urban schools, but in other cases are unique to the rural context. Three challenges in particular stand out as having implications for teacher development and retention: teacher compensation, social isolation, and working conditions. Each challenge is explored in more detail.

Teacher Compensation. Teachers in rural districts make less than their counterparts in urban or suburban districts with the same qualifications (Jimerson, 2003). The National Center for Educational Statistics (2012) released findings that showed the average rural teacher compensation ($47,130) was $7,730 and $11,340 less than urban and suburban teachers respectively. This is partly due to the higher unit costs brought about by a lower student/teacher ratio (Snyder, 2010). Rural districts are required to offer the same core courses as the larger urban school districts in order to meet requirements of federal and state education requirements. This translates into a higher cost ratio per student in each core class offered in rural districts (Hammer et al.,

2005). One way rural school districts address this problem is to pay teachers less (Monk, 2007).

State funding formulas also contribute to lower teacher compensation in rural schools. In Oklahoma, a state foundation formula guarantees no district receives less than the designated per-pupil amount (Crawford, 2013). In school year 2014-2015, the allocated amount was $3081.40 per weighted pupil (Blatt, 2014). However, Oklahoma also incorporates county collections and Ad Valorem taxes into the formula (Crawford, 2013). If for example, a district had 1,000 weighted students it would receive $3,081,400 in funding from the state, less local collections and taxes that are subtracted from the total allocation. Local collections in higher populated urban districts are greater than rural districts, and when local collections surpass the state funding allocation greater revenue is available to pay teachers. Additionally, local collections and taxes are the source of a district's building fund. (Crawford, 2013). The more local revenue, the larger their building fund. Rural school districts typically have lower local collections forcing them to pay for repairs and improvements to buildings out of their general fund. Using the general fund to supplement the building fund leaves fewer funds available to pay for additional teachers or increase salaries.

Isolation. In addition to the financial challenges, the social and geographical isolation of rural districts also inhibits efforts to recruit and retain teachers (Collins, 1999; Erlandson, 1994; Hammer et al., 2005). Hammer et al. (2005) reported that geographic isolation affects access to resources, including the size of the pool of teaching applicants and the ability to offer competitive salaries and support programs. Furthermore, geographical isolation presents difficulties for rural teachers to obtain the

required certifications for all subject areas they teach because they are often separated by long distances from colleges and training facilities (Howley et al., 2005).

Player (2015) stated the limited availability of professional development opportunities posed challenges to recruiting and retaining highly qualified teachers in rural schools. Even when professional development opportunities are present, limited availability of substitute teachers in small districts makes it difficult to release teachers to attend trainings (Hammer et al., 2005). Additionally, the requirement to teach all the sections in a content area can limit teachers from being able to collaborate with other professionals in the same content area. Erlandson (1994) reported that, "Educators tend to experience professional isolation in rural schools because teaching specialties do not enjoy critical mass in any but the largest of these schools" (p. 33). A single teacher may constitute the entire department in some rural school districts (Howley et al., 2005).

Social isolation also limits the applicant pool from which to hire teachers. Novice teachers want to teach in districts close to their homes (Boyd, 2003). Because rural youth are attaining college degrees at lower rates than their urban counterparts, rural districts may prove to be at a disadvantage when attempting to draw teachers back home (Gibbs, 2000). In New York from 1999 to 2002, 61% of novice teachers began teaching within fifteen miles of their hometown; 85% began teaching within forty miles of their hometown (Monk, 2007). Monk (2007) states, "It is hard to escape the conclusion that the real beneficiaries of the localized teacher market are the wealthy suburban districts that turn out high shares of college graduates and have attractive working conditions" (p. 164).

Working Conditions. Working conditions reflect the processes, resources, and routines that define the daily actions and interactions of teachers (Kukla-Acevedo, 2009). Teacher workload, extra-curricular assignments, instructional materials, relationship with colleagues, and connection with administrators are conditions that shape the teaching and learning context (Guarino, Santibanez, & Daley, 2006). Federal/state policies, funding, and social isolation have effects on working conditions in rural schools (Haller, 1992; Hammer et al., 2005; National Center for Education Statistics, 2012).

One challenge of federal education polices on rural schools has been the requirement for highly qualified teachers (Hammer et al., 2005). Beginning with No Child Left Behind, every teacher has to have a full state certification, a bachelor's degree, and demonstrated competence in all subjects they teach (U.S. Department of Education, 2002). Due to small enrollments in rural school districts, a high school math teacher may have to teach all math classes to ensure that the school meets federal requirements. Urban and suburban districts are generally able to limit teaching assignments to either one or two class preparations. More subjects for rural teachers means more time spent planning and preparing for different content material and standards, limiting time available for professional growth (Fowler & Walberg, 1991). Additionally, rural teachers may have to pass more certification tests in order to become highly qualified in the various subjects that they teach (Jimerson, 2004).

Budgetary hardships affect more than just teacher compensation. Limited revenue means fewer support services are available to students, extra-curricular and enrichment opportunities are harder to come by, and discretionary resources to support

community and capacity building are not generally available. The average rural school district per pupil expenditure is $9,768, where the national average per pupil expenditure is $9,992 (Snyder, 2010). Also, rural school districts spend $5,899 on instruction per pupil, per year, but the national average is $6,282 (Snyder, 2010). That may not seem to be a significant difference, but when multiplied by the number of students enrolled in school it can become a substantial amount on a small rural budget.

In summary, teacher compensation, isolation, and working conditions affect how rural school districts attract, develop, and retain novice teachers. To be sure, these conditions are not the only factors behind teacher motivation, performance, and willingness to stay in a district and the profession, but these challenges do have direct and indirect effects on teachers' lives, their satisfaction, and their engagement in work (Darling-Hammond, 1999). It is likely that when rural schools respond to environmental challenges in ways that support and engage novice teachers in their professional and personal growth, they can maintain a stable and dependable teaching core (Hammer et al., 2005; Guarino et al., 2006; Grayson & Alvarez, 2008).

Advantages of Rural School Districts

Rural districts also have advantages and assets that support teachers and students. A few notable ones include smaller class size, fewer discipline problems, and a mostly homogeneous population (Gibbs, 2000; Haller, 1992; Hammer et al., 2005; Monk, 1987; National Center for Education Statistics, 2012). While these advantages are not exclusive to rural districts, research shows that they may be more common than in urban or suburban districts.

Class Size. Nationally, the student/teacher ratio for rural school districts is 14.3 to 1, compared to 16.1 to 1 and 16.2 to 1 for urban and suburban districts respectively (Snyder, 2010). While class size is heavily debated amidst dwindling school budgets (Crawford, 2013), research reports a positive correlation between teacher satisfaction and smaller class size (Perrachione, Rosser, & Petersen, 2008; Monk, 2007). Borman and Dowling (2008) also reported a statistically significant relationship between teacher attrition and student/teacher ratio. Research shows that a reduction in class sizes by just 3 students can reduce the probability that a teacher leaves the district by over 4% (Isenberg, 2010).

Fewer Discipline Issues. Teachers in rural districts benefit from fewer reported discipline issues compared to urban or suburban schools (Monk, 2007). Barley and Beesley (2007) stated two factors that lead to fewer discipline issues. First, a rural district is likely to be the center of the community that hosts many different community activities, which leads students to identify more with the school. Second, parent and community involvement in the district leads to lower discipline rates. Examples of parent and community involvement include volunteering at school, fundraising assistance, and sponsoring extra-curricular activities (Barley & Beesley, 2007). Additionally, in many rural communities the district is the leading employer of the community allowing guardians to be at the school assisting with discipline (Barley & Beesley, 2007). Furthermore, there is often less bureaucracy in rural schools giving teachers more control in the decision-making process and direct involvement in discipline issues (Budge, 2006). The advantages of fewer discipline issues are critical. Ingersoll (2004) reported that schools with fewer discipline issues have lower teacher

turnover. This suggests that student discipline issues lead to emotional exhaustion in teachers, which results in lower job satisfaction (Skaalvik & Skaalvik, 2011).

Homogeneous Student Population. According to the U.S. Department of Education (2014), rural schools ethnic composition is 72% white, 9% black, 12 % Hispanic, and 7% other. This is compared to urban and suburban schools that are 30% and 54% white, 25% and 14% black, 34% and 23 % Hispanic, and 10% and 10% other respectively (U.S. Department of Education, 2014). This is compared to the ethnic composition of rural school teachers that is 89% white, 4% black, 5% Hispanic, and 2% other. It is evident that rural schools have a greater homogeneous population with a higher majority percentage compared to urban or suburban schools.

In a meta-analysis of 13 studies, Borman and Dowling (2008) found that teachers in schools with a diverse student population are three times more likely to leave the profession than teachers who work in a school with a homogeneous population. Additionally, they reported that teachers in schools with a higher minority percentage also had a higher attrition rate. Furthermore, teachers are more satisfied when teaching in a school consisting of a homogeneous student population (Renzulli, Parrott, & Beattie, 2011).

In summary, there are advantages for teachers who work in a rural school including smaller class sizes on average, fewer discipline issues, and a more homogenous student population. These advantages have been linked to great teacher satisfaction and teacher retention (Barley & Beesley, 2007; Perrachione, Rosser, & Petterson, 2008; Renzulli, Parrott, & Beattie, 2011). The next section will discuss

characteristics, challenges, supports, and attrition rates for novice teachers to better understand how the rural school context may interact with those social conditions.

Novice Teachers: General Characteristics and Support Structures

There is evidence that the first three years of teaching are crucial growth years for new teachers (Ingersoll & Smith, 2004; Ingersoll & Strong, 2011; Lynn, 2002). In these years, teachers generally improve their performance, gain confidence in their ability to affect learning, and raise student achievement (Rivkin, Hanushek, & Kain, 2005). To help grow and retain novice teachers in the profession, it is important to look at their characteristics and to examine evidence on professional supports that are available to them.

Characteristics of Novice Teachers

Lacireno-Paquent, Bocala, Fronius, and Phillips (2012) conducted a meta-analysis of the Schools and Staffing Survey data to identify characteristics of novice teachers. They looked at teacher demographics, education and educational attainment, certification, and average class size. In 2008, statistics indicate 832,264 teachers had fewer than five years of experience. This represented 24.4% of all teachers in public education. Of the 832,264 novice teachers, over 75% were female with an average age of 31 years. Additionally, 89.4% of all novice teachers were white.

Education and certification statistics demonstrate that novice teachers pursue different pathways to the profession. In 2012, 98.9% of all novice teachers had a bachelor's degree, 28.9% had a master's degree or higher, 31.2% had a degree in either elementary or secondary education, and 87.3% had some sort of teaching strategy coursework (Lacireno-Paquent, Bocala, Fronius, & Phillips, 2012). Furthermore,

Lacireno-Paquent et al. (2012) found 30% of novice teachers were alternatively certified, meaning that they had no prior coursework related to education.

Beyond the statistical characteristics of novice teachers, Lynn (2002) described the first five years of a novice teacher's career as the induction period. During this time, novice teachers strive for acceptance by students, peers, and supervisors. They tend to engage in instructional practices to pacify their peers without fully understanding why they are doing them (Lynn, 2002). They often experience challenges in the classroom as well. Common struggles relate to managing the behavior and diverse needs of students, balancing time constraints and workload, and dealing with parents and other adults (Meister & Melnick, 2003; Fantilli & McDougall, 2009).

Veenman (1984) found that novice teachers struggle with classroom management, discipline, motivating pupils, dealing with individual differences, student assessment, relations with parents, classroom organization, and insufficient resources. Other studies identified setting up the classroom, preparing for the first weeks of school, curriculum expectations, salary and the maintenance of personal sanity as areas that posed the greatest difficulties for beginning teachers (Britt, 1997; Ganser, 1999; Mandel, 2006). During the induction period teachers tend to focus on modeling other teaching practices of their peers and have not begun their individual growth (Ingersoll & Smith, 2004). There is a great deal of frustration in novice teachers during this time and it is important that they transition to competency-building before teacher burnout occurs (Lynn,2002).

Novice teachers, like other new professionals, confront challenges as they adapt to expectations, school norms, and the routines of the work. Generally, novice teachers

will not form their own teaching identity until they move to the competency-building stage of their development (Lynn, 2002). While this transition occurs at different times, it usually takes place around the third and fourth year of teaching (Lynn, 2002). As novice teachers gain competence and confidence they can focus on areas linked to effective teaching, such as long-term planning, overall student goals, and individual students' needs (Gavish & Friedman, 2010; Marshall, Fittinghoff, & Cheney, 1990). Additionally, classroom management skills are developed and teachers begin to form their own identity (Lynn, 2002). Researchers have found that to transition from induction to competency-building, novice teachers need support structures that build their capacity to excel (Ingersoll & Smith, 2004).

Support for Novice Teachers

Professional support for novice teachers has become a critical strategy to retain quality educators in the profession (Ingersoll, 2012). Inadequate support is also a common factor in novice teachers leaving the field (Colbert & Wolfe, 1992). While support structures vary depending on district and school resources, induction programs are the most common type of support for novice teachers, and evidence has found a positive relationship between effective induction programs and teacher retention (Borman & Dowling, 2008; Fantilli & McDougall, 2009). However, structures and processes for induction experiences vary in their quality (Borman & Dowling, 2008).

Schools have implemented induction programs to foster school-community orientation, develop professional competence, improve goal setting, improve self-reflection and problem solving abilities, adoption of the instructional strategies and practice of the mentor, reduce feelings of isolation, increased positive attitudes, provide

opportunities to interact with colleagues, and acquire a sense of community (Collins, 1999; Fantilli & McDougall, 2009). Over 91% of all novice teachers were in some type of induction program in 2008, which is up from 50% in 1990 (Ingersoll, 2012). In 2010, 27 states required novice teachers to complete an induction program for full certification (Ingersoll, 2012). It is encouraging that school systems see the need for induction programs, but the fact that novice teachers continue to exit the profession calls into question the quality of these supports.

Ingersoll (2012) found that the most common type of induction program was face time with administrators, with 87% of all novice teachers receiving this type of support. Other induction programs include mentoring, beginner seminars, collaboration with colleagues, and teacher aides. Reduced class size is another type of induction service, but there was only a slight difference in average class size between novice and experienced teachers. Novice teachers had an average class size of 20.9 students, whereas experienced teachers had a class size average of 19.45 students (Snyder, 2010).

Ingersoll and Smith (2004) found that comprehensive induction programs had a greater effect on retention than either limited transitional programs or no program at all. When an induction program included a combination of supports, teacher retention rates doubled compared to programs with only a basic induction or no induction at all (Borman & Dowling, 2008; Ingersoll & Smith, 2004). In 2007-2008, only 5% of novice teachers received an induction package that had four or more supports (Ingersoll & Smith, 2004). However, novice teachers who participated in any induction program preformed classroom tasks better and had higher student achievement rates than teachers without any type of induction experience (Ingersoll, 2012). Factors

contributing to increased effectiveness of induction programs include mentee involvement in the selection of a mentor, having a school principal who promotes a collaborative school culture, including novice teachers in the school decision-making process, and pairing teachers with teachers who recently were novice teachers themselves (Fantilli & McDougall, 2009; Teague & Swan, 2013). After controlling for background characteristics of teachers and schools, mentor programs and time to collaborate with colleagues were found to have the greatest positive effect on novice teachers' retention rates (Ingersoll, 2012; Borman & Dowling, 2008).

As effective as induction programs can be, rural teachers do not appear to have equal access to these supports. Researchers found that teachers who work in rural districts have fewer opportunities for mentoring and induction programs than teachers in suburban areas (Johnson, Karods, Dauffman, Liu, & Donalson, 2004; Wei, Darling-Hammond, & Adamson, 2010). Small populations and geographic isolation are two challenges rural schools face with induction programs (Hammer et al., 2005). Many rural districts are trying to collaborate with other organizations to provide professional resources for teachers. Examples of resource centers in Oklahoma include the Oklahoma Public School Resource Center, Oklahoma Parent's Center, and the K20 Center at the University of Oklahoma. These organizations attempt to provide low-cost alternatives for rural school districts who may not be able to organize or staff local programs, but still want to provide learning opportunities for their staffs.

In summary, novice teachers face many challenges including acceptance by students and peers, forming their own identity, developing instructional strategies and classroom management skills (Ingersoll & Strong, 2011; Lynn, 2002). As they

transition from induction into the competency-building, frustration begins to lessen and teachers begin to build strategies through supports (Lynn, 2002). Supports for novice teachers vary by district, but research shows in general the most effective programs are collaboration time with colleagues and mentor programs (Borman & Dowling, 2008; Ingersoll, 2012). However, many rural districts are not able to provide access to induction programs due to small populations and geographic isolation (Hammer, Hughes, McClure, Reeves, & Salgado, 2005).

Reasons for Teacher Attrition

This last section of the literature review examines why teachers tend to leave their school. To truly understand attrition rates, it is important to first understand what is meant by teacher attrition and why it is a concern for school leaders. Attrition rates may include teachers leaving the profession, moving from one school to another, or taking an extended leave during a period of time (Goldring, Taie, & Riddles, 2014). Additionally, teacher attrition rates for local rural schools can be difficult to accurately predict because national data may not represent their context. Attrition rates in high poverty schools, among teachers of color, and in the South region of the US are higher than suburban or rural schools and tend to inflate the national average and may skew results pertaining to local areas (Sutcher, Darling-Hammond, & Carver-Thomas, 2016).

The fact remains that novice teachers leave the teaching profession in staggering numbers: 14% after the first year, 33% after three years, and 50% after 5 years (Ingersoll & Strong, 2011; Lusi et al., 2004). Although a more recent 2015 NCES study reported novice teacher attrition rates much lower at 17% after 5 years of teaching (Gray & Taie, 2015). Researchers have debated those results because the study did not

control for nonresponse bias (Sutcher, Darling-Hammond, & Carver-Thomas, 2016). Another study reported that novice teachers' attrition rate was closer to 19.6%, with 13% moving to another school and only 7% left the profession entirely (Goldring, Taie, & Riddles, 2014). In addition, in Oklahoma during a period from 2007 to 2015, attrition rate has increased 2% (Berg-Jacobson & Levin, 2015)

The attrition rates for novice teachers in rural schools is concerning where it ranges between 11% and 15% (Goldring, Taie, & Riddles, 2014; Kukla-Acevedo, 2009). Even though this tends to be in line, or even slightly lower than the national average, (Goldring, Taie, & Riddles, 2014; Guarino, Santibanez, & Daley, 2006; Kukla-Acevedo, 2009) the turnover places financial burdens on already stretched rural school budgets (Breaux & Wong, 2003). Furthermore, rural schools are adding staffing faster than any other type of school, 18% since 1999, adding to the frustration of teacher attrition for school leaders (Player, 2015). Staffing rural schools is a hardship due to the challenge of recruiting beginning teachers and high attrition rates exacerbate this challenge (Hammer, Hughes, McClure, Reeves, & Salgado, 2005; Howley, Theobald, & Howley, 2005). Regardless of the exact percentage in rural schools, these rates are alarming considering that nearly 20% of the teaching workforce consists of novice teachers and nearly a third of all teacher attrition comes from novice teachers creating instability within schools (Ingersoll & Merrill, 2010; Guarino, Santibanez, & Daley, 2006).

In part, this research focuses on novice teachers because school districts put a great deal of resources toward the development of beginning teachers (Ingersoll & Strong, 2011; Lynn, 2002). High attrition rates causes large transaction costs associated

with replacing teachers (Player, 2015). It is estimated that hiring and training novice teachers cost districts over $50,000 in salary and professional development their first year, a large financial burden for a rural district with limited revenue and growing funding needs (Breaux & Wong, 2003). Nationally, the cost for annually replacing teachers has grown to 2.6 billion dollars (Hong, 2010). The financial cost alone speaks to the critical importance of retaining novice teachers, particularly in rural settings due to their financial hardships.

Teacher attrition rates are affected by several factors. Some of these factors are under the control of school leaders and others are not. For example, teacher compensation is typically out of the school leaders' control (Goldring, Taie, & Riddles, 2014; Guarino, Santibanez, & Daley, 2006; Ingersoll & May, 2011). Studies have varied on the effects of compensation in teacher attrition rates, but Guarino et al. (2006) found "higher salaries were associated with lower teacher attrition and that teachers were responsive to salaries outside their districts and their profession" (p. 194). In Oklahoma, which is 48th in the nation in teacher pay, a novice teacher with a bachelor's degree compensation is $32,350 (Oklahoma Department of Education, 2017). The national attrition rate for teachers who earn between $30,000-$39,999 is 18% (Goldring, Taie, & Riddles, 2014). Teacher compensation may lower teacher attrition (Guarino, Santibanez, & Daley, 2006; Ingersoll & May, 2011), but for many school leaders, this is out of their control and they look to other factors that may have a greater influence over teachers' desire to remain in their school and in the profession (Schaefer, Long, & Clandinin, 2012).

Most working conditions related to teacher attrition are within the purview of school leaders (Darling-Hammond, 2003; Loeb, Darling-Hammond, & Luczak, 2005). A few malleable conditions include teacher perceptions about administrative support, resources for teaching, teacher input on decision-making, and class size and pupil load (Darling-Hammond, 1997, 2003; Ingersoll, 2001; Loeb, Darling-Hammond, & Luczak, 2005). It is important for school leaders to be mindful of their working conditions because in a 2012-2013 study, 51% of teachers who left the profession reported better working conditions as a reason for leaving (Goldring, Taie, & Riddles, 2014).

Simon and Johnson (2015) found that social interactions fostered by positive working conditions predict teacher satisfaction and retention. These may be experienced by a school culture where collaboration and teacher participation in decision-making process are valued (Weiss, 1999). Other factors that school leaders have leveraged to reduce teacher attrition are providing more quality administrative support, access to professional learning opportunities, and fostering professional relationships between colleagues (Kukla-Acevedo, 2009; Sutcher, Darling-Hammond, & Carver-Thomas, 2016).

In conclusion, fewer opportunities and resources pose hardships for rural districts as they recruit, develop, and retain quality teachers. On the other hand, it should be noted many of the most effective support processes do not require additional money or resources (Grubb, 2009). Research shows that attrition rates are lower in schools that give teachers greater autonomy and foster good professional relationships with the principal and teaching colleagues (Guarino, Santibanez, & Daley, 2006; Ingersoll & Strong, 2011; Kukla-Acevedo, 2009; Sutcher, Darling-Hammond, &

Carver-Thomas, 2016). This study investigates the psychological evidence which suggests the social environment can be a determining factor in teacher attitudes, mindsets, motivation, and behavior (Deci & Ryan, 2013). In particular, a social environment that nurtures a teachers' need for autonomy, competence, and relatedness support can be the difference between supporting, developing, and retaining novice teachers and failing to enhance their professional growth (Self-Determination Theory, 2014). In the following section, theory and evidence on motivation are used to explain why the social environment of rural schools has consequences for the development and retainment of novice teachers.

Chapter 3: Theoretical Framework: Self-Determination Theory

As previously described, rural districts lack many of the simple resources and opportunities that may exist in urban and suburban schools, but they are not necessarily disadvantaged when it comes to creating motivating and engaging places to teach. Teacher development and retention in rural schools may actually not have as much to do with tangible resources as with the intangible, social conditions that comprise the teaching and learning climate. As explained through self-determination theory, the relational environment as experienced by teachers may hold the key to rural schools supporting teacher capacity and promoting a workplace capable of retaining novice teachers (Britt, 1997; Ganser, 1999; Mandel, 2006).

Self-determination theory allows for an examination of motivation based on how the social context either nurtures or thwarts psychological needs (Deci & Ryan, 2013). The framework allows for a clear distinction between autonomous and controlled types of motivation, focusing not only on the quantity of motivation, but the quality, too (Fernet, Senecal, Frederic, Herbert, & Dowson, 2008). Fernet et al. (2008) found that in self-determination theory, the range from autonomous to controlled types of motivation include intrinsic motivation, extrinsic motivation, and amotivation. They defined behaviors resulting from intrinsically motivated individuals as accomplished because of the pleasure or satisfaction derived from performing them. In contrast, extrinsically motivated behaviors are not performed for the internal pleasure of doing them, but rather a means to an end. However, intrinsic and extrinsic motivation are not to be seen as polar opposites. There can be instances where individuals are extrinsically motivated by factors in the external environment and still develop autonomous motivation for

certain activities (Koestner, Otis, Powers, Pelletier, & Gagnon, 2008). An example may be teachers who attend professional development to satisfy licensure requirements and end up engaging deeply in the activities because they find value in the experience. Lastly, amotivaition refers to not being intrinsically nor extrinsically motivated, and having no intention of engaging in a particular activity and not knowing what they are doing (Fernet, Senecal, Frederic, Herbert, & Dowson, 2008; Deci & Ryan, 2013; Ryan & Deci, 2000).

Deci and Ryan (2013) claimed, "Social environments can, according to this prospective, either facilitate and enable growth and integration propensities with which the human psyche is endowed, or they can disrupt, forestall, and fragment these processes" (p. 6). Conditions experienced as supportive of the individual's sense of autonomy, competence, and relatedness are argued to foster the high quality forms of motivation and engagement for activities, including enhanced performance, persistence, and creativity. In addition, self-determination theory proposes that the degree to which the three psychological needs are unsupported or thwarted within a social context will have a robust detrimental impact on wellness in that setting (Deci & Ryan, 2013). All three needs are essential, and if any are thwarted, there will be distinct functional costs (Adams, Forsyth, Ware, Dollarhide, & Miskel, 2015).

Basic Psychological Needs and Need-Support in Schools

The basic psychological needs dimension of self-determination theory establishes evidence to explain how social conditions in rural schools may contribute to novice teachers' willingness to stay in the district. Accordingly, the basic psychological needs of competence, autonomy, and relatedness must be satisfied for individuals to

experience growth, fulfillment, and overall wellbeing from their relational context (Deci & Ryan, 2000). These basic psychological needs are universal and transcend culture and context (Chirkov, Ryan, Kim, & Kaplan, 2003; Vansteenkiste, Zhou, Lens, & Soenens, 2005). Satisfying psychological needs would seem to be a precondition to staying in a rural school district and committing the energy needed to grow as a professional. Prior to discussing the importance of supporting basic psychological needs for novice teachers, a brief description of competence, autonomy, and relatedness is provided.

Competence is having effective interactions within one's own social environment and having opportunities to show their capabilities (Deci & Ryan, 2013). Deci and Ryan (2013) also note that competence is not a feeling gained after mastering a skill, but rather an internal feeling of confidence and effectiveness within an action or setting. They state, "The need for competence leads people to seek challenges that are optimal for their capacities and to persistently attempt to maintain and enhance those skills and capacities through activity" (p. 7). The second basic psychological need is autonomy, which is defined as having a sense of volition and control over one's own actions or behavior (Deci & Ryan, 2013). Lastly, relatedness refers to a quality relationship with others and a belongingness both with individuals and their organization (Deci & Ryan, 2013).

Need-support derives from the social environment and represents interactions that can either activate or suppress the psychological state (Deci & Ryan, 2000). For example, autonomy-support differs from the internal perceived belief of autonomy. Autonomy-support is a social condition experienced through structures and processes

established by the school environment (Assor, Kaplan, & Roth, 2002). Autonomy-supportive school environments provide a social context in which teachers can control their own behavior and outcomes, take responsibility for their work, and understand the relevance of what they are doing (Ford & Ware, 2018). This exists in environments where faculty share positive perceptions and high expectations for themselves (Adams, Ware, Miskell, & Forsyth, 2016). Conversely, autonomy-support can be thwarted when school environments hinder independent thinking, have teachers engage in meaningless tasks, and use excessive external controls to modify behavior (Assor et al., 2002). This can occur when an environment is perceived to have excessive formal rules and procedures, as well as an overreaching organizational hierarchy (Hoy & Sweetland, 2001; Ford & Ware, 2018; Tschannen-Moran, 2009). Furthermore, extrinsic motivators actually work against autonomy-supportive environments and can impede quality performance over time (Ryan & Deci, 2000).

Autonomy-support in schools is embodied in a school structure experienced as enabling rather than hindering (Ford & Ware, 2018). An enabling school structure exists when rules and regulations are flexible, encouraging, and guides to solutions rather than used to punish mistakes and constrain behavior (Hoy, 2016). In an enabling school environment, principals and faculty can work collaboratively towards common goals, solve problems jointly, and maintain professional discretion within their respective organizational roles. Although there are other conditions that may reflect an autonomy-supportive environment, an enabling school structure is a strong indicator of an environment where rules and regulations are flexible guides to solve problems and address issues in the classroom (Ford & Ware, 2018). Additionally, an enabling school

structure provides for a culture where teachers can operate free from the fear of strict evaluations or external pressure to meet performance targets, but are accountable to their own internal regulation (Ford & Ware, 2018; Sinden, Hoy, & Sweetland, 2004; Tschannen-Moran, 2009).

Competence-supportive school environments establish clear expectations, develop instructional coherence across classrooms, and provide consistent and constructive feedback (Jang, Reeve, & Deci, 2010). Additionally, goal setting and communication are vital in creating competence-supportive school environments (Adams et al., 2016). In a competence-supportive environment, teachers set personal goals along with shared school goals (Deci & Ryan, 2000). Furthermore, they also must understand the importance of those goals and how they are progressing towards their goals (Urdan & Turner, 2005). Strong communication allows for consistent feedback on progress toward goal attainment, thereby supporting teacher competence (Connell & Wellborn, 1991).

Competence-support emerges as novice teachers feel supported through professional development opportunities. Professional development opportunities allow teachers to gain knowledge and skills critical to their performance in the classroom. Useful professional development builds confidence in one's ability to achieve desired outcomes and to grow as a professional (Deci & Ryan, 2000; Tschannen-Moran & McMaster, 2009).

Novice teachers experience relational-support through opportunities to be connected with their school (Deci & Ryan, 2013). Relational-support is defined by the interactions of the novice teachers with the district and experiencing a sense of

belonging (Ford & Ware, 2018). These interactions can foster internal motivation within teachers by providing a sense of security, attaching, and belonging (Ryan & Deci, 2000). Valued interactions are ones in which teachers experience trustworthy behaviors within the district such as: benevolence, openness, honesty, reliability, and competence (Hoy & Tschannen-Moran, 1999).

Relational-support can manifest in rural schools as faculty trust in colleagues and in principals. Faculty trust in colleagues signals a relational context in which teachers experience psychological safety and are willing to risk vulnerability (Forsyth, Adams, & Hoy, 2011). Trustworthy interactions exist when teachers perceive their colleagues as being open, honest, reliable, competent, and benevolent in their thoughts and actions (Forsyth, et al., 2015). Trust in the principal enables teachers to seek out their school leader for guidance, help, and support with issues affecting them professionally and even personally (Ford & Ware, 2018).

In summary, evidence has established a need-supportive environment as a precondition to human flourishing (Deci & Ryan, 2000; Ford & Ware, 2018). Given the significance of such social conditions, this study was interested in measuring the experienced need-support of novice teachers in rural schools. With little existing evidence, it is hard to know if rural schools are supporting the psychological needs of novice teachers, and if that support may be related to teachers' willingness to stay in the district. Due to the lack of evidence, three questions were advanced for the empirical investigation:

1. To what extent do novice teachers in rural school districts experience support for their basic psychological needs measured through survey responses on enabling

school structure, professional development opportunities, and faculty trust in colleagues and principal?

2. Does perceived need-support of novice teacher's basic psychological needs in rural school districts differ by enrollment size? For this question, group means were compared to identify any differences in need-support based on district size and an ANOVA was run to determine if the differences were statistically significant.
3. Is perceived need-support related to their willingness to stay in the rural school district? Evidence for this question comes from correlations and multiple regression analysis.

Chapter 4: Research Method

The purpose of this research was to explore perceived need-support of novice teachers in rural schools and test the relationship between need-support and novice teachers' willingness to stay in the district. To investigate and produce findings, the empirical study had three objectives: First, measure the extent to which novice teachers in rural schools perceive that their psychological needs are supported by the work environment. Second, determine if perceived need-support of novice teachers differs by district characteristics. Third, determined if there is a relationship between perceived need support and the willingness of novice teachers to stay in the district.

Research Design

This study used a non-experimental, cross-sectional design to address the research questions. The intent was to better understand the current state of need-supports and their potential effects on teacher willingness to stay in their school before any type of experimentation research may be conducted. Choosing a non-experimental design presented limitations to the evidence. This research can only evaluate associations among the variables. There cannot be inferences of causality, and the purposeful sample may limit generalizations. Since it was a self-report survey with novice teachers giving their perceptions about need-support in their districts, bias towards situations causing skewed results could exist. For example, teachers could be upset that they had to do playground duty on the day the survey was presented and they could have reported a lack of support. The study was also cross-sectional in design allowing no follow-up to determine comparability of results.

Data Source and Data Collection

Novice teachers in rural schools were the unit of analysis. Only certified teachers were asked to participate in the survey. This included traditional, alternative and emergency certifications; no administrators were surveyed. A total of 387 teachers were surveyed from twelve rural Oklahoma districts, including 285 career and 102 novice teachers, ranging from pre-k to high school teachers. Only data from the 102 novice teachers was used in the analysis. The novice teachers had five or fewer years of total teaching experience, with educational degrees ranging from bachelor's to master's. Length of service within their current district varied from first year in district to their fifth year in the same district.

The survey was administered in twelve school districts that were purposefully selected because of their distinctive criteria of rural schools. This included enrollment, population and distance from urban clusters. There was an effort made to select districts from different regions of Oklahoma. While the descriptive characteristics varied between districts, a limitation to the study was all twelve districts classified as remote due to their distance from an urban cluster. Districts varied from 25 miles to 136 miles away from an urban cluster with a population over 50,000. Additionally, districts ranged from 15 miles to 69 miles away from urban clusters with population between 25,000 and 50,000 (See Appendix A). Furthermore, according to Oklahoma State Department of Education (2016), the districts surveyed ranged in enrollment from a pre k-8 district with an enrollment of 216 to a pre k-12 district with an enrollment of 1,851 and had school district populations that range from the smallest at 1,009 to the largest at 10,430 (See Appendix B). Socioeconomic, ethnicity, staffing characteristics,

and student achievement data are presented to give a representation of the diversity in the sample (See Appendix C, D, E). Even though the twelve districts all classified as the same in regards to location, there exists a large discrepancy in enrollment.

The research instrument used for data collection was a 40-question survey using a Likert Scale of 1-6, with 1 being strongly disagree and 6 being strongly agree (Appendix F). The surveys were given during the first 10-15 minutes of regularly scheduled faculty meetings. Prior knowledge about the administration of the survey was given to teachers in the meeting agenda, but full instructions were given by the researcher prior to the surveys being distributed. A pre-paid postage envelope was given with each survey, allowing it to be mailed back directly to the researcher, ensuring the participant would remain anonymous. The survey was voluntary and the option was given to mail back a blank survey if the participant did not want to participate. There was a total of 14 teachers who chose not to participate in the survey. With 387 responses out of a possible 401 surveys administered, the response rate for the survey was 97%.

Measures

Novice teachers' perceived need-supports of autonomy, relatedness, and competence were operationalized in the survey by measuring the extent they experienced an enabling school structure, professional development opportunities, faculty trust in colleagues, and faculty trust in principals in their school. The survey also measured a novice teacher's willingness to stay in the district.

Enabling School Structure

Autonomy-support was measured with items from the Enabling School Structure (ESS) Scale (Forsyth, et al., 2015). The scale is a 6-point Likert like scale with responses ranging from Strongly Disagree coded as 1 to Strongly Agree coded as 6. The ESS scale operationalizes the extent that teachers perceive cooperation between principals and faculty across recognized authority boundaries. Furthermore, the ESS scale measures the extent to which teachers perceive rules and regulations as flexible guides rather than constraints (Forsyth, et al., 2015). The less teachers perceive a school as hindering their work, the more support they feel they have in their flexibility and autonomy to make their own decisions. Ten items were selected including, *Administrative rules enable authentic communication* and *The administration encourages teachers to use professional judgements*. The reliability of the scale is consistently high with a Cronbach's alpha score of .90 or higher (Hoy & Sweetland, 2001). Additionally, studies have shown the construct and predictive validity have been strongly supported (Sinden, Hoy, & Sweetland, 2004).

Faculty Trust in Colleagues and Faculty Trust in Principal

Relational support was operationalized with items from both the Faculty Trust in Colleagues (FTC) Scale and the Faculty Trust in Principal (FTP) Scale (Forsyth, et al., 2015). Six-point Likert scales with responses ranging from Strongly Disagree coded as 1 to Strongly Agree coded as 6 are used. Both are subscales of the Omnibus Trust Scale, which has three dimensions of faculty trust: trust in principal, trust in colleagues, and trust in clients (Forsyth, et al., 2015). Seven items were selected from the Faculty Trust in Colleagues Scale including, *I can depend on other teachers for help* and *I trust*

teachers in this school. Five items were selected from the Faulty Trust in Principal Scale including, *The principal acts in the best interest of teach*ers and *I trust the principal in this school*. The scales have been extensively used in both elementary and high schools. Reliabilities of subscales range from .90 to .98 and factor analytic studies support the validity of the concept (Hoy & DiPaloa, 2007).

Professional Development Opportunities

To measure the extent that a novice teacher experienced a competence-supportive environment, this study used the Professional Development Opportunities (PDO) Scale, which was derived from items of the Teacher Questionnaire of the Study of Instructional Improvement (Rowan & Miller, 2009). The scale uses a 6-point Likert scale with responses ranging from Strongly Disagree coded as 1 to Strongly Agree coded as 6. The Professional Development Opportunities Scale operationalized the extent that teachers were able to access quality formal and informal learning experiences throughout the school year. It measured the growth of novice teachers in content knowledge, lesson execution, innovation, and collaboration, allowing us to determine the level of competence support that rural districts are providing (Forsyth, et al., 2015). The PDO scale was an eight-item scale that included, *Professional learning experiences gave me opportunities to work on aspects of my teaching* and *Professional learning experiences provided me with useful feedback about my teaching*. A Cronbach's alpha of .96 suggests high reliability of the scale.

Willingness to Stay in the District

Willingness to stay in the district was measured by a single item asking teachers to rate, on a scale from 1 to 6, their willingness to stay in their current district for the

next three years. A single item measure was selected because it fits the four conditions outlined by Fuchs and Diamantopoulos (2009): nature of the construct, nature of existing instruments, research objectives, and sampling considerations. The construct of willingness to stay in the district is concrete in nature, making it simple for teachers to endorse or not endorse. The question asked teachers, *On a scale from 1 to 6 with 6 being the highest, how willing are you to stay in your current district for the next three years?*

The validity and reliability of single item measures has been supported in numerous studies (Dolbier, Webster, McCalister, Mallon, & Steinhardt, 2004; Nagy, 2002; Fuchs & Diamantopoulos, 2009). Dolbier et. al. (2004) found that the reliability estimate was high and the validity was significant in predicting teacher turnover with this single-item measure. These factors indicate that the measure would produce similar results in other conditions and it is a predictable measure of novice teachers' willingness to stay in the district. Additionally, single items measures have been found to "contain more face validity" compared to other scaled measures because respondents are not confused by multiple questions or have conflicting responses (Nagy, 2002, p. 77).

Analysis

SPSS was used to analyze the data. The first question was examined by a descriptive analysis of the survey responses to describe the extent novice teachers perceived autonomy-support, competence-support, and relatedness-support by the rural school environment. This was done by looking at each of the four constructs individually: enabling school structure, professional development opportunities, faculty

trust in colleagues, and faculty trust in principal. Furthermore, an item analysis was used for all the survey questions to achieve a deeper explanation of data patterns related to need-supports and describe the specific features of the larger condition. Since the survey used a Likert scale from 1-6 with 1 being strongly-disagree and 6 being strong-agree, a criterion threshold of 5 was set for evaluating the results. Five is where the average responses fall in the agree or strongly agree range.

The second research questioned was analyzed to determine if there were any differences in need-supports by district size. First, each district was examined individually by comparing their means on a histogram on the four constructs: enabling school structure, professional development opportunities, faculty trust in colleagues, and faculty trust in principal. This was done to determine if there were differences in perceived need-support by district. The twelve districts were then split into three equal groups based on enrollment: small rural, medium rural, and large rural. The cauterization of the rural districts in this sample was for evaluation purposes only and not determined by the National Center of Educational Statistics. For this comparison small rural district had an enrollment less than 400 students in the district, medium rural district ranged from 401 to 600 students enrolled in the district, and large rural district had an enrollment ranging from 1,600 to 1,900.

Lastly, an Analysis of Variance (ANOVA) was preformed to determine if differences in need-support by district size were statistically significant, or if the differences were random. Similar tests were run for Professional Development Opportunities, Faculty Trust in Colleagues, and Faculty Trust in Principal, which will be reported in the respective section. For purposes of this study, level of statistical

significance 0.05 or 0.01 was accepted (Gay, Mills, & Airasian, 2006). The statistical significance of the F-ratio is reported by the Alpha coefficient in the tables. If the F-ratio is found to be statistically significant by the Alpha coefficient, then the variance in the constructs determined by district size could then be attributed to district size and not random chance or sampling error. The Eta squared coefficients were used to examine the amount of explained variance attributed to district size.

To examine the third question, a bivariate correlation was preformed to determine if a relationship existed between individual need-supports and novice teachers' willingness to stay in rural districts. A bivariate correlation reveals the strength of relationships between variables, which range in strength as follows: very weak r = 0.0-0.19, weak r = 0.20-0.39, moderate r = 0.40-0.59, strong r = 0.60-0.79, very strong r = 0.80-1 (Evans, 1996). Both Pearson bivariate correlation estimates and Kendall Tau correlation estimates were used to analyze the relationship between need-supports and willingness to stay. Willingness to stay in the district was measured with a single item and may be considered as an ordinal variable. The analytical correction was to use the Spearman estimate, as it is the appropriate technique for an ordinal variable to guard against any potential scaling of the variable. This is due to novice teachers giving their perceptions of how willing they are to stay in the district on a scale of 1-6. For example, a novice teacher might have reported a 5 on the scale which is greater than another teacher's answer of 3, but they might not be equal in scale since it is their individual perception of 1-6.

The correlation was followed by a regression analysis to determine the amount of variance that could be attributed to perceived need-support. Finally, each need-

support was evaluated individually to determine the unique effect it had on willingness to stay and if that effect was statistically significant. Both unstandardized and standardized coefficients were reported. The standardized coefficient was used to examine the unique effect size that a need support may have on a novice teacher's willingness to stay. Additionally, results reported multi-collinearity statistics to determine if any of the need-support's relationships between each other were influencing the relationships between individual need-supports and a novice teachers' willingness to stay in their district.

Limitations of the Research Design

As with any research design, there are limitations that must be addressed. A design is valid if results in the dependent variable can be attributed to the manipulation of the independent variable and if the findings can be generalized to a larger setting beyond the surveyed population (Gay, Mills, & Airasian, 2006). Thus, internal and external validity threats were considered in reporting design limitations (Vogt, 2007).

Using the research of Campbell and Stanley (1971) and Cook and Campbell (1979), this study has two main internal threats: instrumentation and differential selection of participants. Instrumentation refers to the use of unreliable measurements (Gay, Mills, & Airasian, 2006). For this study, instrumentation does not mean that the measurements had low validity and reliability scores. However, what is meant by instrumentation in this case is the measurements cannot account for all the explanation in novice teachers' willingness to stay in the district. The measures cannot rule out other possible explanations that a teacher might leave the district besides providing

need-supports for the novice teachers. Some of these other factors may include isolation, personal reasons such as retirement or pregnancy, or teacher compensation.

An additional internal threat to validity is the differential selection of participants. This is defined as the differences in the participants prior to the study that may have influenced the results (Gay, Mills, & Airasian, 2006). For this sample, the characteristics of the districts could have influenced the perceived need-supports of the novice teachers. For example, they could have had different induction supports, funding structures, location, student demographics, etc. Furthermore, the novice teachers themselves had differences such as demographic characteristics and prior experiences that may have altered how they perceived need-supports.

The external threat to this study is whether the findings can be generalized to a larger setting beyond the surveyed population (Gay, Mills, & Airasian, 2006). In particular, the threat of selection-treatment interaction is a limitation to this study. This refers to when participants are not randomly selected (Bracht & Glass, 1968). Recall that the selection of districts to participate in this study was a purposeful selection, and in turn, made selection of the novice teachers who participated a purposeful selection. This limits the ability to generalize the findings to other rural schools because it was not a true random sampling of all rural schools across the U.S., but an argument could be made that Oklahoma schools may have similar results because of their likeness to the sample.

In summary, there are limitations to every design and this study is no different. There are both internal and external validity threats, leaving open the possibility of rival explanations for the findings and a lack of generalization to different schools. This does

not mean that the findings are meaningless; instead, the evidence should be approached with an understanding of the limitations. The next chapter provides an in-depth analysis of the findings.

Chapter 5: Findings

This chapter presents findings from the data analysis. It begins with evidence on the distribution of teacher responses to the indicators of need-support: enabling school structure, professional learning opportunities, faculty trust in colleagues, and faculty trust in principal. This evidence is used to determine if the data meets the assumptions of normality. After this, findings are organized by the three research questions.

Distribution of Scores

Histograms for enabling school structure, professional learning opportunities, faculty trust in colleagues, and faculty trust in principal appear in figures 1, 2, 3, and 4 respectively. As seen in table 1, distributions report negatively skewed bell curves with skewness scores of -1.117 for Enabling School Structure, -1.120 for Professional Development Opportunities, -1.136 for Faculty Trust in Colleagues, -1.913 for Faculty Trust in Principal. These values fall within the respectable range for skewness (Bulmer, 1979) and indicate the majority of the responses were at the favorable end of the response set. However, the standard error of skewness for all constructs in this sample was .239, which means perceptions for these constructs on the entire population of novice teachers in rural districts may not be similarly skewed (Cramer, 1997).

Histograms also show kurtosis of the distributions. Overall, scores report excess kurtosis of 1.326 for Enabling School Structure, 1.427 for Professional Development Opportunities, 1.287 for Faculty Trust in Colleagues, and 3.938 for Faculty Trust in Principal as shown in table 1. These values indicate that the data are leptokurtic, which means the distribution of scores is more centralized around the mean and the tails of the curve are longer and fatter than an average bell curve (Brown, 2016). However, this

does not mean that the data for the sample are not valid or unusable. The standard error of kurtosis for all the constructs was .474, which indicates perceptions of these constructs on the entire population of novice teachers in rural districts may not have a similar distribution of results (Cramer, 1997).

Table 1: *Distribution of Scores*

Construct	Skewness	Kurtosis
Enabling School Structure	-1.117	1.326
Professional Development Opportunities	-1.120	1.427
Faculty Trust in Colleagues	-1.136	1.287
Faculty Trust in Principal	-1.913	3.938

Note. Standard Error for Skewness was 0.239. Standard Error for Kurtosis was 0.474.

Question One: Experienced Need-Support by Novice Teachers

Recall that need-supports were measured by enabling school structure, professional development opportunities, faculty trust in colleagues, and faculty trust in principals. Descriptive data from novice teachers were used to describe the average teacher's perception of these social conditions. Scores were compared to the 5.0 criterion used as a target threshold for positive responses. Item-level data are reported in order to describe differences in responses to questions related to each type of need-support. The percentage of teachers who responded at or above the 5.0 threshold at the item-level of the entire sample is also given to further describe teacher perceptions. A criterion threshold of 70% of responses above the threshold needs to be met in order to conclude that novice teachers perceived the construct existed in rural districts. Any

percentage less than 70% may indicate that the majority of novice teachers did not perceive an environment favorable to supporting their needs.

Enabling School Structure

As seen in Figure 1, the average novice teacher's score on perceived enabling school structure was 5.01 with a standard deviation of 0.87, which was above the criterion threshold of 5.0. Of the novice teachers in the sample, 57 scored at or above the criterion threshold of 5.0. This equates to 55.9% of the novice teachers perceiving that an enabling school structure existed in their school. In contrast, 44.1% of novice teachers did not perceive the school structure as enabling.

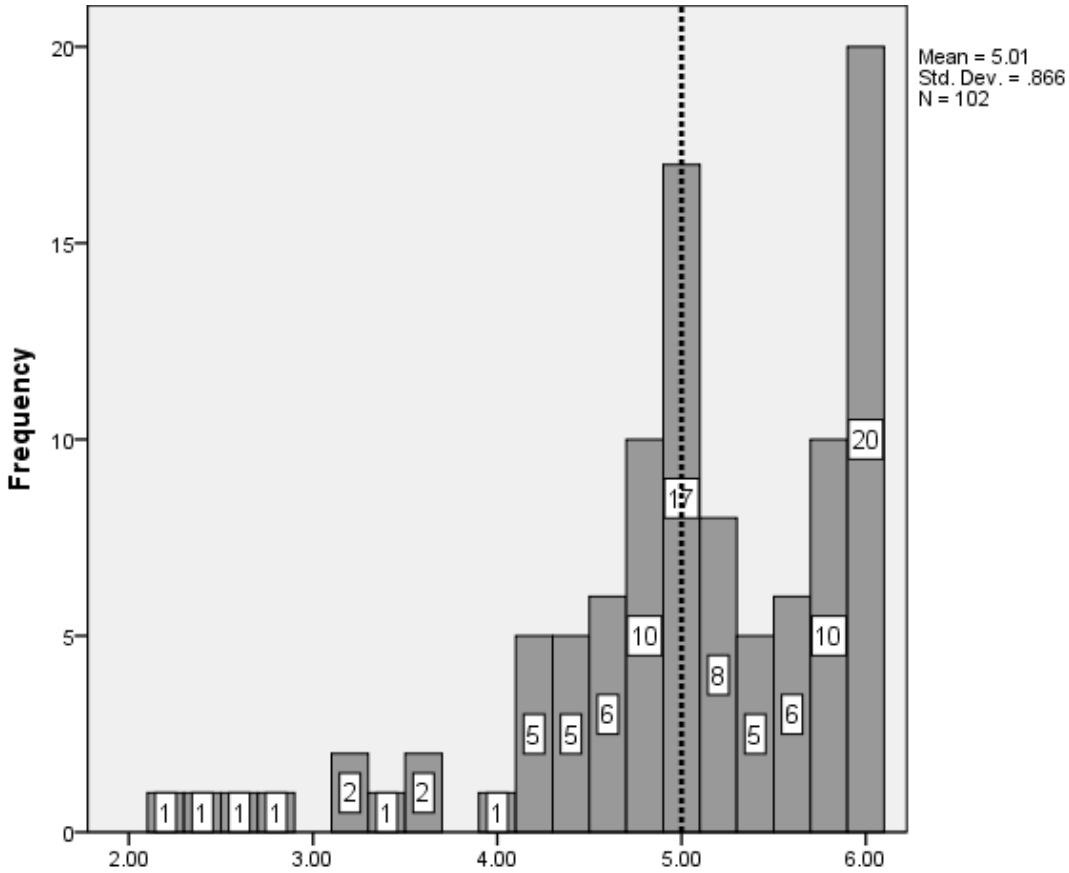

Figure 1: Teacher Perceived Enabling School Structure

Item-level responses to enabling school structure are presented in Table 2. Five of the items had average responses at or above the 5.0 criterion and five items were below this score. Teachers had the strongest endorsement for the question *The administration encourages teachers to use professional judgements* (5.23). Teachers had the lowest endorsement for the question *Rules in this school are guides for solutions rather than rigid procedures* (4.67). Although not all items met the mean threshold, nine of the ten items had over the 70% of teachers responding in favorable categories. This indicates that the majority of teachers experienced an enabling environment within their school. Overall, stronger endorsements were for questions pertaining to actions and practices of school administrators and lower endorsements of school rules and regulations.

Table 2: *Item Results for Enabling School Structure*

Item	Mean	SD	% above threshold
Administrative rules in this school enable authentic communication between teachers and administrators	4.81	1.16	69.6
The administration enables teachers to do their job	5.05	1.07	78.2
The administration promotes student achievement	5.21	.96	83.4
Rules in this school help rather than hinder	4.99	.91	71.5
The administration facilitates the school's mission	5.10	1.10	79.4
Rules in this school are meant to help teachers improve	4.87	1.06	70.6
The administration encourages innovation	4.94	1.08	74.5
The administration encourages teachers to use professional judgements	5.23	.82	81.4
Rules in this school are guides for solutions rather than rigid procedures	4.67	1.14	78.8
The authority of the principal is used to support teachers	5.20	1.10	82.4

Professional Development Opportunities

Figure 2 illustrates the distribution of novice teachers' perceptions of professional learning opportunities within their school. Teachers had an average item response of 4.66 with a standard deviation of 0.94. This falls below the desired criterion of 5.0. Fewer than half of the novice teachers surveyed agreed or strongly agreed that learning opportunities were effective in their school with only 45 teachers scoring above the threshold. This equates to only 44.1% of novice teachers experiencing effective professional learning opportunities.

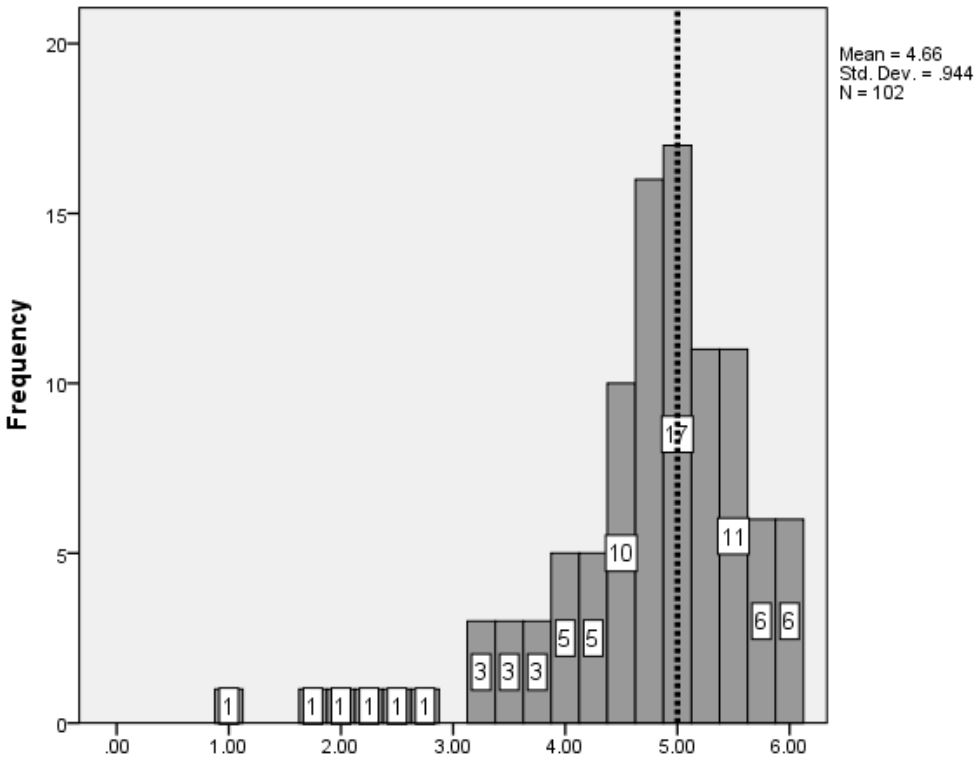

Figure 2: Teacher Perceptions of Professional Learning

Item-level responses for professional development opportunities are presented in Table 3. No item met the mean threshold of 5.0. The closest item to the threshold was *My learning experiences this year gave me opportunities to work on aspects of my teaching* (4.90). While seven of eight scores were close to the threshold, the item *My learning experiences this year allowed me to focus on a problem for an extended period of time* had the lowest mean score of 4.02. Overall, stronger endorsements were questions pertaining to professional development experiences that tied to classroom practices and lower endorsements were given to the time allotted to professional development.

Table 3: *Item Results for Professional Development Opportunities*

Item	Mean	SD	% above threshold
My learning experiences this year…			
Gave me opportunities to work on aspects of my teaching	4.90	1.01	73.5
Provided me with helpful knowledge to use in the classroom	4.64	1.19	64.7
Allowed me to focus on a problem for an extended period of time	4.02	1.34	45.1
Provided me with useful feedback about my teaching	4.60	1.33	68.6
Made me pay closer attention to things I do in my classroom	4.80	1.02	71.5
Led me to seek out additional information from teachers, school administrators, or other resources	4.76	1.16	57.6
Led me to think about teaching in a new way	4.63	1.18	63.8
Led me to try new things in the classroom	4.89	1.09	73.5

Faculty Trust in Colleagues

Figure 3 shows the distribution of faculty trust in colleagues. The average novice teacher's score on faculty trust in colleagues was 5.19 with a standard deviation

of 0.79, which was above the criterion threshold of 5.0. Of the novice teachers in the sample, 74 scored at or above the 5.0 threshold. This equates to 72.5% of the novice teachers perceiving they could trust their colleagues in their school. In contrast, 28 out of the 102 novice teachers had trust scores below the mean threshold of 5.0.

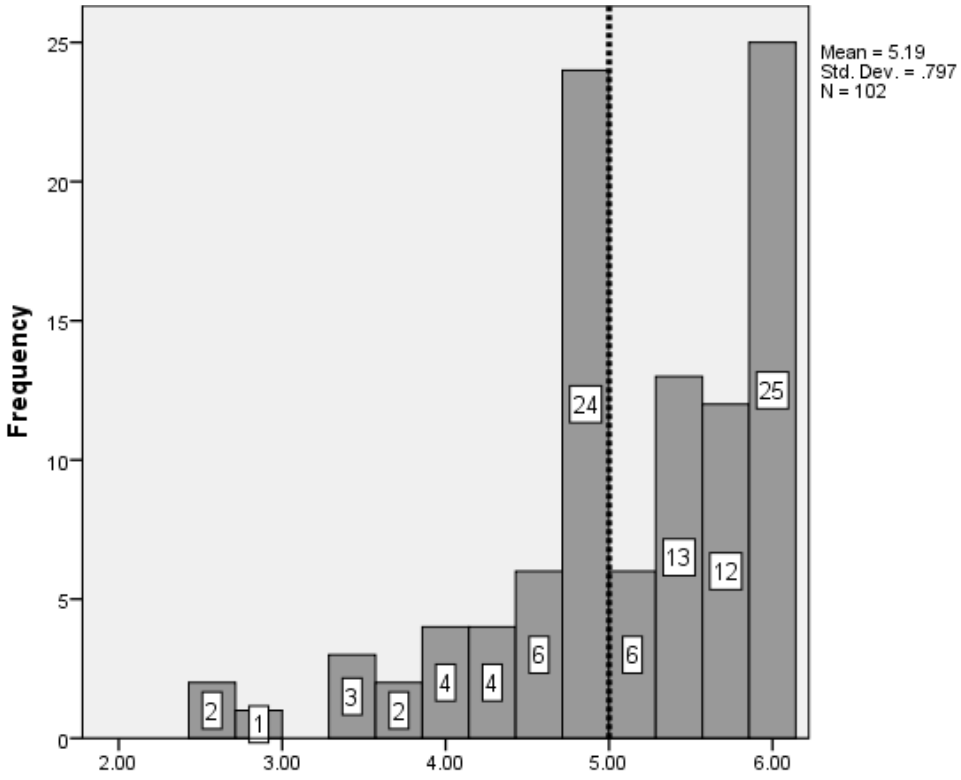

Figure 3: Faculty Trust in Colleagues

Item-level responses to faculty trust in colleagues are presented in Table 4. All but one of the items had average responses at or above the 5.0 criterion. Teachers had the strongest endorsement for the question *I can depend on teachers in my school for help if I need it* (5.38). Teachers had the lowest endorsement for the question *Teachers in this school are open with each other* (4.87). The strong perception of faculty trust in

colleagues is supported by the percentage of teacher responses above the threshold. All seven items exceeded the 70% majority to clearly indicate a strong perception of trust. Overall, the strongest endorsements were with questions pertaining to teachers helping other teachers and lower endorsements dealt with the communication between teachers.

Table 4: *Item Results for Faculty Trust in Colleagues*

Item	Mean	SD	% above threshold
When teachers in this school tell you something, you can believe them	5.15	.94	79.4
Teachers in this school typically look out for each other	5.22	.97	83.3
I can depend on teachers in my school for help if I need it	5.38	.72	90.2
I have faith in the integrity of my teaching colleagues	5.26	.89	85.3
Teachers in this school are open with each other	4.87	1.03	70.6
Teachers in this school do their jobs well	5.21	.85	82.3
I trust the teachers in this school	5.23	.87	82.4

Faculty Trust in Principal

Figure 4 shows the distribution of faculty trust in principal scores. The average item response on the scale was 5.21 with a standard deviation of 0.94. Of the novice teachers surveyed, 81 of the 102 novice teachers, or 79.4%, perceived they could trust the principal of their school. This leaves only 21 novice teachers, or 20.6%, not having trust scores at or above the mean threshold of 5.0.

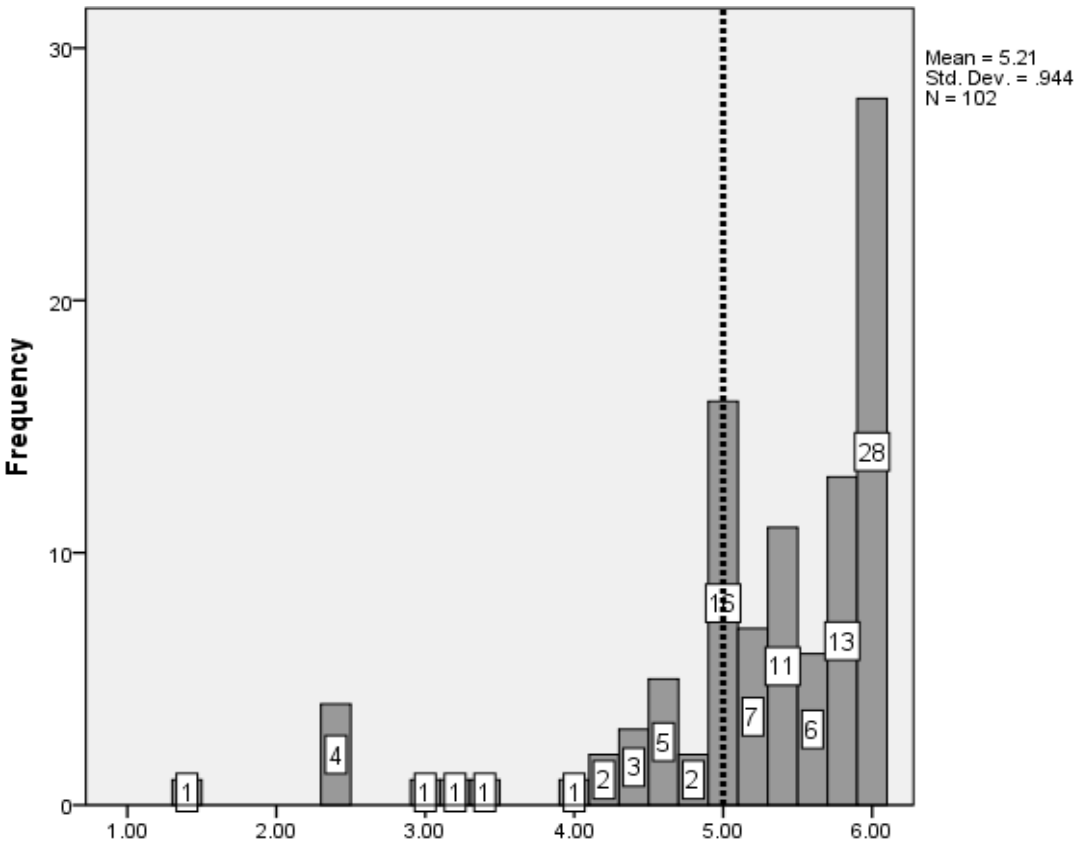

Figure 4: Faculty Trust in Principal

The five item-level responses used to measure the perceptions of faculty trust in principal for novice teachers are presented in Table 5. Four of the five items exceeded the mean threshold with scores of 5.38, 5.39, 5.42, and 5.33. Additionally, these four items had response averages well above the 70% majority with scores in the high 80%, giving clear evidence of a strong perception of trust among the sample of novice teachers. Teachers had the strongest endorsement for the question *I believe my principal is competent in doing his/her job* (5.42). Teachers had the lowest endorsement for the question *My principal does not tell teachers what is going on* (4.53). This was the only question that had a mean score below the threshold. Overall, the strongest endorsement came from questions pertaining to the competency of the

principal and the lowest endorsement was communication between principal and teachers.

Table 5: *Item Results for Faculty Trust in Principals*

Item	Mean	SD	% above threshold
I trust the principal in this school	5.38	1.03	89.2
I can rely on my principal for support	5.39	.96	87.3
I believe my principal is competent in doing his/her job	5.42	1.03	89.2
My principal does not tell teachers what is going on	4.53	1.64	66.7
My principal acts in the best interest of teachers	5.33	.97	87.3

To summarize descriptive evidence related to the first research question, the three constructs of enabling school structure, faculty trust in colleagues, and faculty trust in principal exhibited positive findings. Means scores for the constructs exceeded the threshold of 5.0 and over 70% of teachers in the sample reported favorable perceptions. Item responses were also good with the majority of items achieving or exceeding the means threshold of 5.0. Perceptions toward professional development opportunities were not as favorable. The mean item response did not meet the 5.0 threshold and item responses were below 5.0 as well. These data findings suggest that many novice teachers experience autonomy-support from administration and relational-support from colleagues. Experienced competence-support was more ambiguous with fewer teachers having favorable responses for professional learning opportunities.

Question Two: Differences in Need-Support Attributed to District Size

The primary interest in question two addresses differences in novice teacher perceptions based on rural district size. Before reporting these results, histograms are

presented on district averages in enabling school structure, professional development opportunities, faculty trust in colleagues, and faculty trust in principal. These graphs describe differences in average teacher perceptions across the school districts in the sample.

Teacher Perceptions Aggregated at the District Level

As seen in Figure 5, the average district score on perceived enabling school structure was 4.93 with a standard deviation of 0.59, which was below the criterion threshold of 5.0. Of the districts in the sample, 6 scored at or above the criterion threshold of 5.0. This equates to 50% of the districts had positive perceptions that an enabling school structure existed within their district. The lowest district average was a 3.40 and the highest was 5.85.

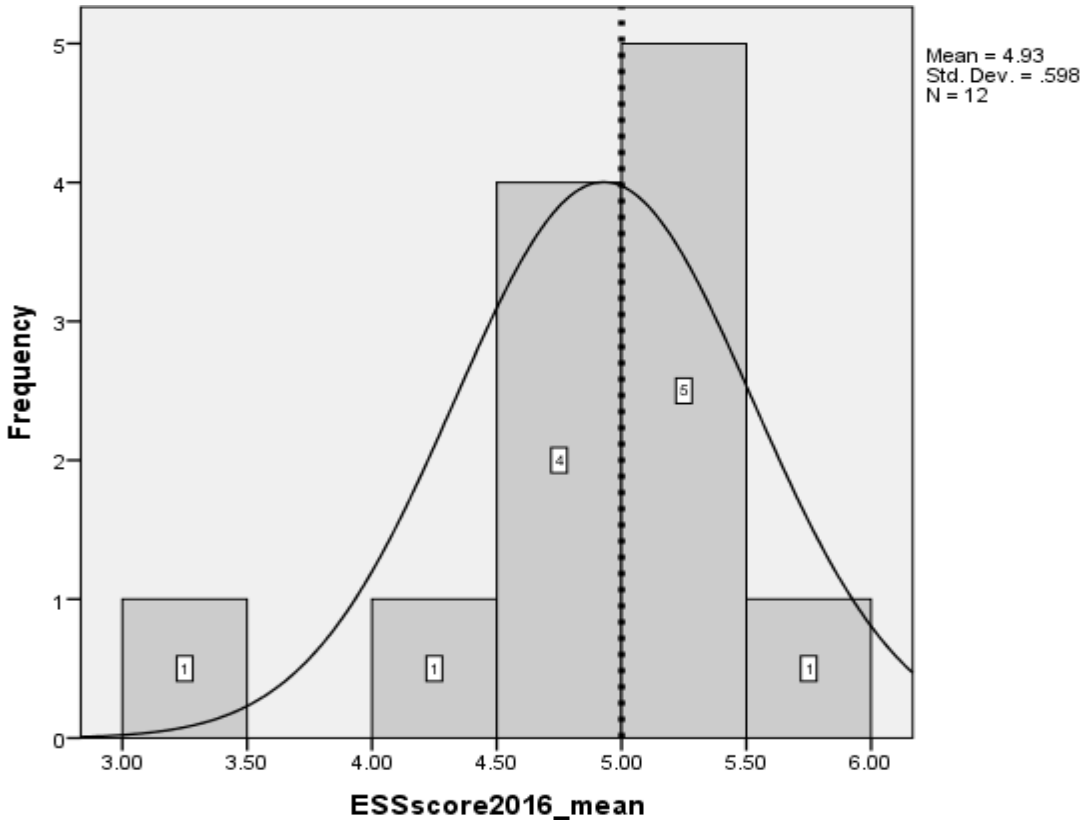

Figure 5: Distribution of Enabling School Structure across Districts

Teacher perceptions averaged at the district level for professional development opportunities was a 4.68 with a standard deviation of 0.49, which falls below the threshold of 5.0. The lowest district response score was a 3.54 and the highest score was 5.25. Furthermore, figure six shows only 25% of the districts met or exceeded the threshold of 5.0 and 75% did not meet the threshold. When aggregating the data at the district level, three districts in the sample perceived there existed professional development opportunities within their district.

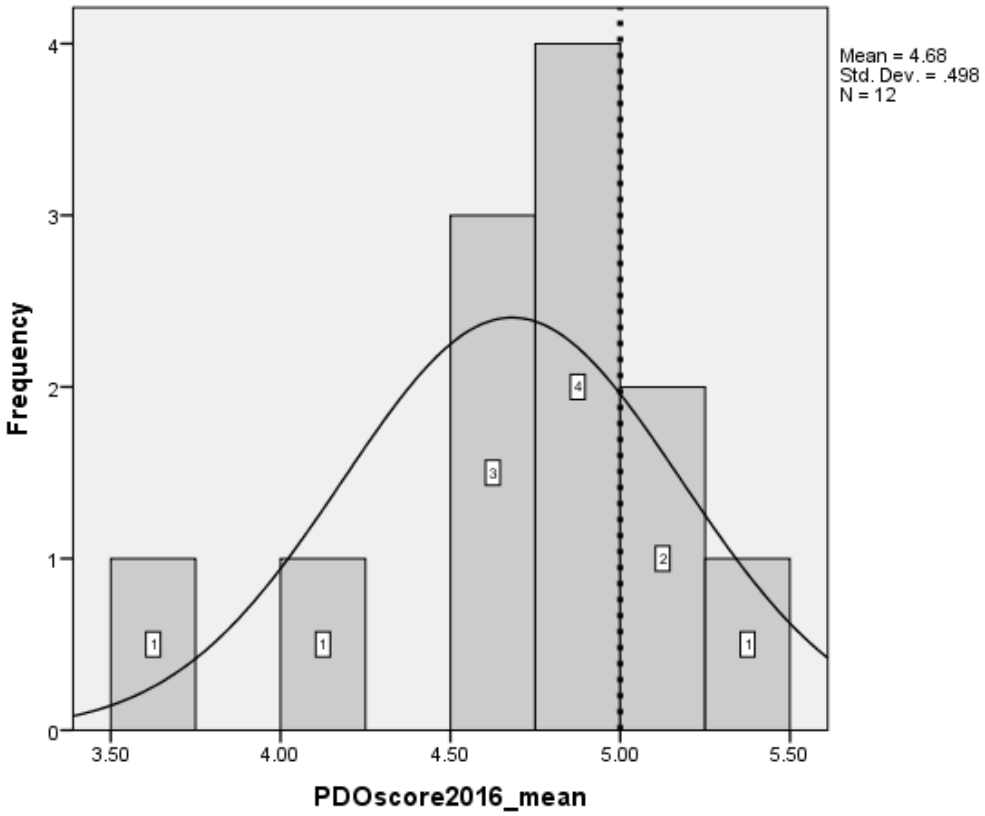

Figure 6: Distribution of Professional Development Opportunities across Districts

As seen in figure 7, the average score on faculty trust among colleagues was 5.09 with a standard deviation of 0.35, which was above the criterion threshold of 5.0. This indicates nine out of the 12 districts, or 75% of the sample, experienced faculty trust among colleagues within their districts. Furthermore, only three districts, or 25%

of the sample, had an average score below agree or strongly agree. The lowest district average score was 4.26 and the highest was 5.49.

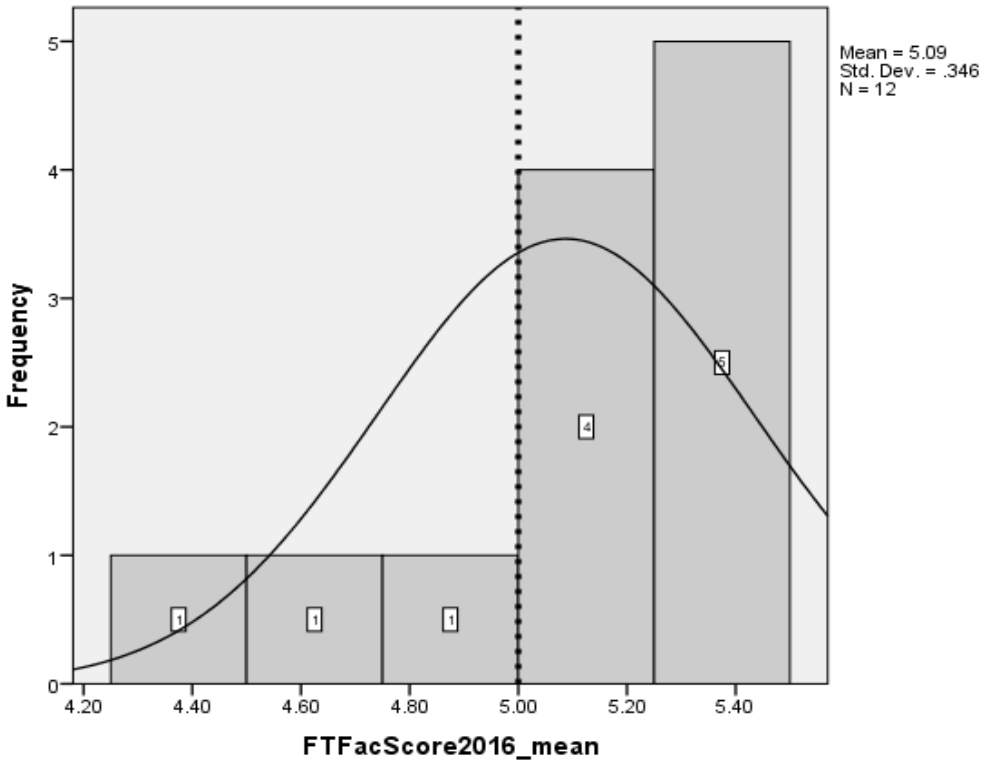

Figure 7: Distribution of Faculty Trust in Colleagues across Districts

Faculty trust in principal had the highest mean score when aggregated at the district level. The mean score of 5.19 with a standard deviation of 0.65, exceeded the criterion threshold of 5.0 Faculty trust in principal had nine districts, 75% of the sample, exceeding the threshold of 5.0 which can be seen in figure 8. The maximum average district score was 5.70, but there existed one district that presented a very low average score of 3.33.

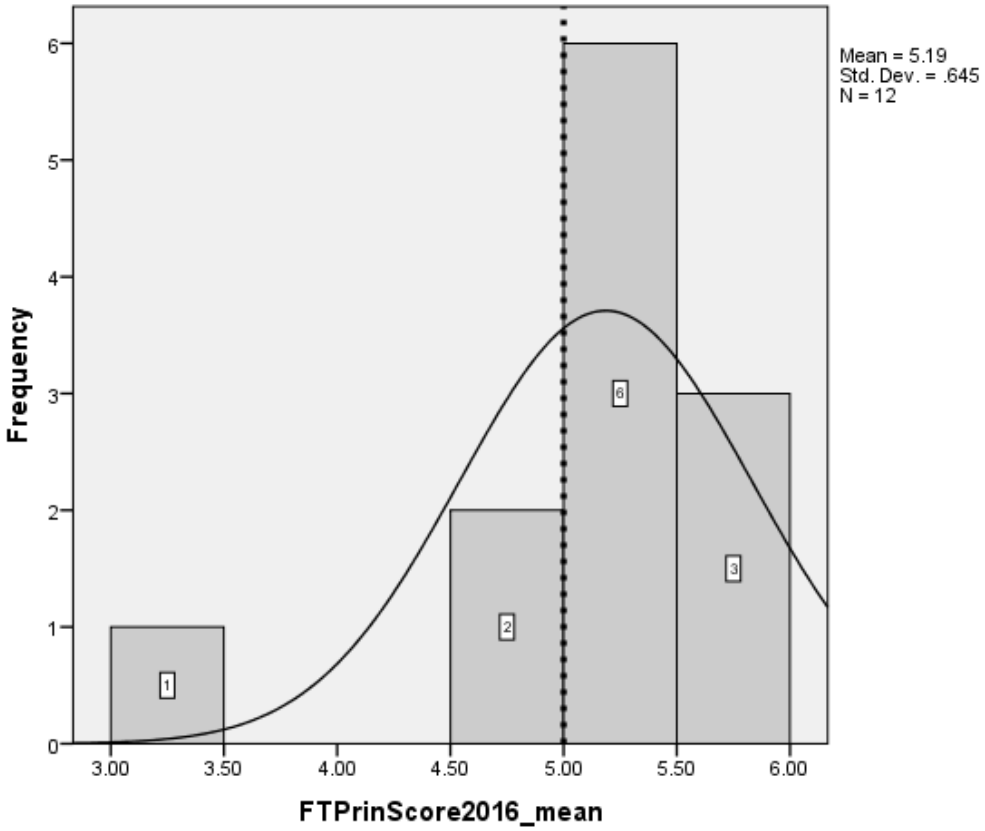

Figure 8: Distribution of Faculty Trust in Principal across Districts

Difference in Perceived Need-Support by District Size

To address differences in perceived need-support by district size, rural districts were grouped into three classifications: small rural, medium rural, and large rural. For each construct, mean differences are reported followed by ANOVA results.

Table 6 reports mean differences by district size for enabling school structure. Results show that small rural and large rural districts exceeded the threshold of 5.0 with mean scores of 5.05 and 5.11 respectively. The medium sized rural districts did not exceed the 5.0 threshold with an average of 4.80. ANOVA results in table 7 report that the mean differences in enabling school structure by district size were not statistically

significant (F=1.29, P>.28), suggesting that the differences are more likely due to chance or sampling error than attributes of district size.

Table 6: *Perceived Enabling School Structure by District Size*

District Size	# of novice teachers within group	Mean	Std. Dev
Small (<400)	11	5.05	0.66
Medium (401-1600)	31	4.80	1.14
Large (1,600-1,900)	60	5.11	0.72
Total Sample	102	5.01	0.87

Note. Each group contains four districts.

Table 7: *ANOVA Results for Enabling School Structure by District Size*

Variable	Sum of Squares	df	Mean Square	F-Ratio	Alpha	Eta Squared
ESS	Between – 1.92	101	Between - 0.96	1.29	0.28	0.025
	Within – 73.82		Within - 0.75			

Note. Significant at alpha <.05.

Table 8 reports mean differences by district size for professional development opportunities. Results show that none of the groups' mean scores met the threshold of 5.0. Small rural had a mean score of 4.95 and standard deviation of 0.74, medium rural had a mean score of 4.56 with a standard deviation of 1.08, and large rural had a mean score of 4.63 with a standard deviation of 0.94. ANOVA results in table 9 report that the mean differences in professional development opportunities by district size were not statistically significant (F=0.63, P>.54). This suggests that the differences are more likely due to chance or sampling error.

Table 8: *Perceived Professional Development Opportunities by District Size*

District Size	# of novice teachers within group	Mean	Std. Dev
Small (<400)	11	4.95	0.74
Medium (401-1600)	31	4.56	1.08
Large (1,600-1,900)	60	4.63	0.91
Total Sample	102	4.66	0.94

Note. Each group contains four districts.

Table 9: *ANOVA Results for Professional Development Opportunities by District Size*

Variable	Sum of Squares	df	Mean Square	F-Ratio	Alpha	Eta Squared
PDO	Between – 1.13 Within – 88.95	101	Between - 0.56 Within - 0.89	0.63	0.54	0.012

Note. Significant at alpha <.05.

Table 10 shows the mean differences by district size for trust in colleagues. Results show that all the groups' mean scores exceeded the 5.0 threshold. Small rural had a mean score of 5.04 with a standard deviation of 0.61, medium rural had a mean score of 5.08 with a standard deviation of 1.01, and large rural had a mean score of 5.27 with a standard deviation of 0.69. ANOVA results in table 11 report that the mean differences in faculty trust in colleagues by district size were not statistically significant (F=0.77, P>.47). This suggests that the differences are more likely due to chance or sampling error.

Table 10: *Perceived Faculty Trust among Colleagues by District Size*

District Size	# of novice teachers within group	Mean	Std. Dev
Small (<400)	11	5.04	0.61
Medium (401-1600)	31	5.08	1.01
Large (1,600-1,900)	60	5.27	0.69
Total Sample	102	5.19	0.79

Note. Each group contains four districts.

Table 11: *ANOVA Results for Faculty Trust among Colleagues by District Size*

Variable	Sum of Squares	df	Mean Square	F-Ratio	Alpha	Eta Squared
FTC	Between – 0.98 Within – 63.10	101	Between - 0.49 Within - 0.64	0.77	0.47	0.015

Note. Significant at alpha <.05.

Table 12 reports mean differences by district size for faculty trust in principal. Results show that small rural and large rural districts exceeded the threshold of 5.0 with mean scores of 5.33 and 5.30 respectively. The medium sized rural districts did not exceed the 5.0 threshold with an average of 4.99. ANOVA results in table 13 report that the mean differences in faculty trust in principal by district size were not statistically significant (F=1.19, P>.31). This suggests that the differences are more likely due to chance or sampling error.

Table 12: *Perceived Faculty Trust in Principal by District Size*

District Size	# of novice teachers within group	Mean	Std. Dev
Small (<400)	11	5.33	0.88
Medium (401-1600)	31	4.99	1.19
Large (1,600-1,900)	60	5.30	0.79
Total Sample	102	5.21	0.94

Note. Each group contains four districts.

Table 13: *ANOVA for Faculty Trust in Principal by District Size*

Variable	Sum of Squares	df	Mean Square	F-Ratio	Alpha	Eta Squared
FTP	Between – 2.17 Within – 87.89	101	Between - 0.1.06 Within - 0.89	1.19	0.31	0.024

Note. Significant at alpha <.05.

To summarize the evidence for research question two, the histograms for the teachers' responses averaged to the district level reported variations in responses by district. When evaluating the constructs of enabling school structure, professional development opportunities, faculty trust in colleagues, and faculty trust in principal at the district level; 50%, 25%, 75%, and 75% of the districts averaged above the 5.0 threshold, respectively. Additionally, medium sized districts have only slightly lower mean scores across all constructs compared to small rural and large rural districts. However, these results were found to not be statistically significant meaning that the findings could be attributed to chance or error. This does not mean that the results were invalid, but further evaluation and studies would need to be done to attribute the variance found related to district size.

Question Three: Need-Support Related to Novice Teachers' Willingness to Stay

Evidence to evaluate the relationship between perceived need-support and novice teachers' willingness to stay comes from Pearson bivariate and Kendall Tau correlations and regression results. This section is organized by reporting the strongest to weakest relationships between need-supports and willingness to stay, then between the need-supports themselves. The results for both Pearson and Kendall Tau are given in a correlation table, with Kendall Tau correlations in parentheses. Furthermore, the amount of variance explained by the combined need-supports found in a willingness to stay is reported by a regression table. Additionally, each need-support is then reported individually to show unique effect size.

As seen in table 14, Pearson bivariate results report statistically significant relationships between willingness to stay and each of the operationalized need-supports: enabling school structure, professional development opportunities, faculty trust in colleagues, faculty trust in principal. Faculty trust in colleagues had the strongest association with willingness to stay ($r = 0.35$, $p < 0.01$) followed by enabling school structure ($r = 0.29$, $p < 0.01$), professional development opportunities ($r = 0.24$, $p < 0.05$), faculty trust in principal ($r = 0.22$, $p < 0.05$).

The Pearson bivariate results are supported with Kendall's Tau results that also show statistically significant relationships between enabling school structure, professional development opportunities, faculty trust in colleagues, faculty trust in principal and willingness to stay in the district. Recall, only relationships between the ESS, PDO, FTC, FTP and willingness to stay are reported for Kendall's Tau

correlations because of using an ordinal measure. The strongest relationship in the Kendall Tau correlations with willingness to stay is also faculty trust in colleagues ($r = 0.29$, $p < 0.01$) followed by enabling school structure ($r = 0.24$, $p < 0.01$), faculty trust in principal ($r = 0.23$, $p < 0.01$), professional development opportunities ($r = 0.23$, $p < 0.01$). These associations are also classified as weak (Evans, 1996).

The bivariate correlations among the need-supports were examined to assess any potential multi-collinearity among these variables. Results show that enabling school structure and faculty trust in principal ($r = 0.75$, $p < 0.01$) have a very strong relationship. Also enabling school structure had a very strong relationship with faculty trust in colleagues ($r=0.63$, $p<0.01$). Given these high correlations, multi-collinearity statistics were examined in the regression analysis to determine if there is any shared variance between need-supports.

Table 14: *Pearson and Kendall's Tau Bivariate Correlation*

	ESS	PDO	FTC	FTP	WIL
ESS	1	0.58**	0.63**	0.75**	0.29** (0.24**)
PDO		1	0.37**	0.41**	0.24* (0.27**)
FTC			1	0.57**	0.35** (0.29**)
FTP				1	0.22* (0.23**)
WIL					1

Note. ESS=Enabling School Structure, PDO=Professional Development Opportunities, FTC=Faculty Trust in Colleagues, FTP=Faculty Trust in Principal, WIL=Willingness to Stay in the District. Kendall's Tau results for willingness to stay in parenthesis.

N=102.

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Multiple regression results appear in Table 15. Each independent variable was entered into the model together to compare the unique effect of each condition on willingness to stay. Combined, the set of need-supports explained approximately 14% of the variance in novice teachers' willingness to stay (R^2=.14, $p<0.01$). Faculty trust in colleagues had the strongest and only statistically significant effect on willingness to stay (β=0.28, $p<0.05$), explaining approximately 8% of the variance. According to Cohen (1992), faculty trust in colleagues had a small to medium effect on willingness to stay.

Shared variance among the independent variables does possibly confound the potential effects of each variable on willingness to stay. However, multi-collinearity statistics fall within the respectable range. To determine this, both tolerance and the variance inflation factor, VIF, of the data set were evaluated. An accepted level of tolerance is above 0.10. This is due to the belief that any level of tolerance below 0.10 could adversely affect the results associated with multiple regression analysis (Tabachnick & Fidell, 2001). All the independent variables have a tolerance level above 0.10 in this sample. Enabling School Structure, Faculty Trust in Colleagues, Faculty Trust in Principal, and Professional Development Opportunities have tolerance scores of 0.308, 0.580, 0.419, and 0.664, respectively. In conjunction with the tolerance level, an acceptable level of the variance inflation factor is 10 because that is where it corresponds to the tolerance level of 0.10 (Hair, Anderson, Tatham, & Black, 1995). For this sample, all variance inflation factors are below 10. Enabling School Structure, Faculty Trust in Colleagues, Faculty Trust in Principal, and Professional Development Opportunities have variance inflation factor scores of 3.247, 1.725, 2.386, and 1.507

respectively. Since both criteria set to determine if multi-collinearity exists have been met, it is safe to say that the unique effect that individual need-supports have on willingness to stay is not overly influenced by the relationship that the need-supports have with each other.

To summarize evidence for research question three, the correlation and regression evidence together support that each operationalization of need-support had an association with willingness to stay, but when combined, faculty trust in colleague had the strongest unique effect. Additionally, the multi-collinearity results showed the unique effect that the need-supports had on willingness to stay were not overly influenced by each other.

Table 15: *Regression Analysis of Independent Predictor Variables on Dependent Variable*

	Unstandardized Coefficients		Standardized Coefficients			95 % Confidence Interval for B		Multi-Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
CONS	0.631	1.123		0.562	0.575	-1.598	2.860		
ESS	0.183	0.320	0.098	0.574	0.568	-0.451	0.818	0.308	3.247
FTC	0.567	0.254	0.278	2.228	0.028	0.062	1.072	0.580	1.725
FTP	-0.089	0.252	-0.052	-0.353	0.725	-0.589	0.411	0.419	2.986
PDO	0.169	0.201	0.098	0.098	0.403	-0.231	0.569	0.664	1.507

Note. (R^2=0.137, p=0.006)

CONS=Constant,

Independent Variables: ESS=Enabling School Structure, FTC=Faculty Trust in Colleagues, FTP=Faculty Trust in Principal, PDO=Professional Development Opportunities.

Dependent Variable: Willingness to Stay

In conclusion, the results are as follows:

- For this sample of rural novice teachers, 70% of teachers reported favorable responses with mean scores exceeding the threshold of 5.0 regarding constructs of enabling school structure, faculty trust in colleagues, and faculty trust in principal.
- Perceptions toward professional development opportunities were not as favorable with a mean score not meeting the 5.0 threshold and item responses not reaching the 5.0 criterion.
- When evaluating the constructs of enabling school structure, professional development opportunities, faculty trust in colleagues, and faculty trust in principal at the district level; 50%, 25%, 75%, and 75% of the districts averaged above the 5.0 threshold respectively.
- When determining perceived need-support by district size, medium sized districts have only slightly lower mean scores across all constructs compared to small rural and large rural districts. However, these results were found to not be statistically significant meaning that the findings could be attributed to chance or error.
- Combining the set of need-supports explained approximately 14% of the variance in novice teachers' willingness to stay (R^2=.14, $p<0.01$).
- Faculty trust in colleagues had a medium effect size explaining approximately 8% of the variance in willingness to stay (β=0.28, $p<0.05$) and was the only statistically significant need-support when evaluated individually.

Chapter 6: Discussion

This study advanced during challenging times facing rural school leaders across the country. Namely, novice teachers are leaving the profession at a rate of 50% within the first five years (Ingersoll & Strong, 2011; Lusi, et al., 2004). Leaders of rural schools attempting to find research-based solutions to this issue are struggling due to the gap in literature regarding novice teachers in rural schools (Hardre' & Sullivan, 2006; Arnold, Newman, Gaddy, & Dean, 2005; DeYoung, 1987). To assist rural school leaders in understanding reasons why novice teachers may stay or leave, this study situated the problem of attrition in the context of psychological need-support. The purpose of this chapter is to discuss the findings through the lens of self-determination theory as well as provide rural schools leaders with implications and recommendations for practice.

Explanation of Findings

Recall that self-determination theory allows for an explanation of motivation based on how the social context either nurtures or thwarts psychological needs (Deci & Ryan, 2013). The guiding principle of this research is that the social context as experienced by teachers may hold the key to rural schools supporting teacher capacity and promoting a workplace capable of retaining novice teachers (Britt, 1997; Ganser, 1999; Mandel, 2006). This chapter discusses findings related to working conditions and need-support and the relationships between need-supports and willingness to stay.

Working Conditions and Need-Support

Research from Deci and Ryan (2013) indicates that a social context can be a determining factor in teacher attitudes, mindsets, motivation, and behavior that

maximize performance. Conditions within the social context that nurture an individual's sense of autonomy, competence, and relatedness are argued to foster high quality forms of motivation and engagement for activities, including enhanced performance, persistence, and creativity (Deci & Ryan, 2013). Need-support derives from the social environment and represents interactions that can either activate or suppress the psychological state (Deci & Ryan, 2000).

For this sample, novice teachers in rural schools seemed to have experienced the administration's policies/rules as supportive of their professional autonomy. This claim has support in the high mean scores for items measuring enabling school structure. As a construct, average teacher perceptions fell within the favorable range. Additionally, the majority of the novice teachers in the sample agreed favorably with but one of the individual items. Strongest endorsements were for the items: *The administration encourages teachers to use professional judgement* (5.23) and *The authority of the principal is used to support teachers* (5.20).

Finding that novice teachers generally experienced autonomy-support is consistent with the research about the context of rural schools. Rural schools tend to have school structures where rules and regulations are flexible, encouraging, and guides to decisions rather than policies used to punish mistakes and constrain behavior (Budge, 2006). Additionally, rural schools allow for teachers to control their own behavior and outcomes, take responsibility for their work, and understand the relevance of what they are doing (Player, 2015). In a time when there exists more and more regulations on our schools and teachers (Hammer, Hughes, McClure, Reeves, & Salgado, 2005), results

from this sample indicate that rural schools may be able to provide an environment where autonomy-support can flourish.

Different from experienced autonomy-support, novice teachers on average reported less favorable professional learning opportunities. Competence-support appeared to be inconsistent for many teachers. Evidence from this sample showed that novice teachers did not experience professional development opportunities at a level necessary to support their needs. Teacher competence is the only need-support where the established favorable 5.0 threshold was not met (4.66). Additionally, none of the item-level responses met the threshold. Individual items reveal the problem: *My learning experiences this year allowed me to focus on a problem for an extended period of time* (4.02) and *My learning experiences this year provided me with useful feedback about my teaching* (4.60).

When looking at some of the hardships rural schools face to obtain quality professional development, such as isolation and the lack of financial and human resources, the findings are consistent with the challenges within the rural school context (Hammer, et al., 2005; Erlandson, 1994). Sending novice teachers to professional development opportunities takes financial resources that many rural schools do not have (Crawford, 2013; Player, 2015). Furthermore, it sometimes requires substitute teachers to cover classes when teachers are receiving training, which many districts are not able to do because of financial hardships and remote locations (Hammer et al., 2005). Additionally, internal capacity is lower in rural districts due to staffing, making it harder for rural districts to provide training to its novice teachers internally (Player, 2015). Due to these contextual hardships, it is not surprising that rural schools in this sample

struggled to offer competence-support through professional development opportunities.

Relational-support appeared evident for many novice teachers in this sample. Teachers reported favorable perceptions of faculty trust in colleagues and faculty trust in principals. Both faculty trust in colleagues and faculty trust in principals exceeded the 5.0 favorable criterion, with mean scores of 5.19 and 5.21 respectively. Out of the 102 novice teachers surveyed, 74 perceived they could trust their colleagues and 81 perceived they could trust their principal. The item responses also had the highest averages out of the constructs with the majority exceeding the 5.0 threshold. Teachers specifically endorsed the questions *I can depend on teachers in my school if I need help* (5.38) and *I can rely on my principal for support* (5.39). This provides strong evidence that novice teachers perceived relational-support within their rural schools.

Strong trust comes as no surprise because the social context of rural schools is largely relational and have strong networks (Player, 2015). Rural schools usually consist of a more homogeneous population allowing for teachers to feel a stronger connection with the school due to self-identification (Borman & Dowling, 2008). Additionally, teachers in rural schools generally report good relationships with their principal (Player, 2015). This allows leadership to play a key role in developing and sustaining a relational-supportive culture in which teachers trust each other and trust the intentions and actions of the principal.

In summary, the descriptive findings on need-support are in agreement with existing research. Rural schools have strengths and weakness attributed to their location, size, financial capabilities, and human capital. It is no surprise that relational-support and autonomy-support were experienced by novice teachers. Novice teachers

must rely heavily on colleagues and principals due to their isolation and lack of professional development opportunities (Collins, 1999; Ingersoll & Strong, 2011; Lynn, 2002). Unfortunately, the findings show competence-support was not being experienced at high levels by many novice teachers. Professional development opportunities were not consistently meeting teachers' needs. In short, findings show the context of the rural schools in this study did a good job of supporting teacher autonomy and relatedness, but fell short of providing adequate support for teacher competence.

Need-Support and Willingness to Stay

The attraction, development, and retention of novice teachers has been a primary focus of policy makers and educational leaders for decades (Borman & Dowling, 2008; Breaux & Wong, 2003; Ingersoll & May, 2011; Lusi, et al., 2004). More recently, such issues reached a boiling point because of the large attrition rates within the profession and the declining pipeline of preservice teaches (Goldring, Taie, & Riddles, 2014; Sutcher, Darling-Hammond, & Carver-Thomas, 2016). Some factors contributing to the high attrition rates include conditions that school leaders do not control, such as federal/state mandates and family needs (Ingersoll & May, 2011; Johnson, 2006; Kukla-Acevedo, 2009). Other factors lie within the purview of school leaders, such as the school environment and building relationships among staff members (Guarino, Santibanez, & Daley, 2006; Kukla-Acevedo, 2009; Player, 2015). To leverage factors within their control, school leaders have traditionally turned to induction programs as a common strategy to retain and develop novice teachers (Borman & Dowling, 2008; DeAngelis, Wall, & Che, 2013; Guarino, Santibanez, & Daley, 2006; Fantilli & McDougall, 2009; Ingersoll, 2012). Many of these programs include mentoring,

seminars, teacher aides, and reduced class sizes (Borman & Dowling, 2008; Ingersoll, 2012). Although these induction programs have been shown to reduce teacher attrition rates (Borman & Dowling, 2008; Ingersoll, 2012; Player, 2015), rural schools may not have the same access to programs due to their small populations and geographical locations (Hammer, et al., 2005; Johnson, et al., 2004; Wei, Darling-Hammond, & Adamson, 2010).

Rather than evaluating the utility of induction strategies or interventions, this research examined the degree to which social conditions could influence novice teachers' decisions to stay in the district. This study found relational support experienced as trust in colleagues was instrumental in novice teachers' intent to stay in the district. Faculty trust in colleagues was the only statistically significant relationship with willingness to stay in the district for this sample ($\beta=0.28$, $p<0.05$), explaining approximately 8% of the variance. Autonomy-support and competence-support experienced through an enabling school structure ($\beta=0.09$, $p>0.05$) and professional development opportunities ($\beta=0.09$, $p>0.05$) each explained less than 1% of the variance in willingness to stay and were not statistically significant.

Previous research has shown that collaboration between colleagues is a social condition that reduced teacher attrition and raised teacher satisfaction (Borman & Dowling, 2008; Guarino, Santibanez, & Daley, 2006; Kukla-Acevedo, 2009; Schaefer, Long, & Clandinin, 2012; Sutcher, Darling-Hammond, & Carver-Thomas, 2016). The trust that is formed among colleagues through these connections may have established strong social bonds and provided support for novice teachers (Adams et al., 2016).

Previous research was also supported by these findings where faculty trust in colleagues explained some of the variance in teachers' willingness to stay in the district.

The association between teacher trust and willingness to stay makes sense in the context of novice teacher development. Relational-support provides a sense of security and safety that novice teachers need to learn and grow on the job. Recall that many novice teachers strive for acceptance and engage in instructional practices to pacify their peers without fully understanding why they are doing them (Lynn, 2002). They may also experience challenges in the classroom such as managing the behavior and diverse needs of students, balancing time constraints and workload, dealing with parents and other adults, and the maintenance of personal sanity (Britt, 1997; Fantilli & McDougall, 2009; Ganser, 1999; Mandel, 2006; Meister & Melnick, 2003). The trust they have in their colleagues elicits the safety and security they need to cope with and learn from their professional and personal challenges.

The context of rural schools may have its disadvantages in retaining novice teachers such as financial hardships, geographical isolation, and tough working conditions (Hammer, Hughes, McClure, Reeves, & Salgado, 2005; Howley, Theobald, & Howley, 2005; Gibbs, 2000; Guarino, Santibanez, & Daley, 2006). However, the social context may also prove to be ideal for building the social resources by which novice teachers are more inclined to stay within the district. The rural school dynamics allow teachers to form closer relationships with other teachers because of their size and dependence on each other (Bauch, 2001; Player, 2015). This is important because novice teachers are less likely to leave the profession when they establish relationships with an integrated group of teachers (Borman & Dowling, 2008; Ingersoll, 2001;

Schaefer, Long, & Clandinin, 2012). This supports Ingersoll and Strong's (2011) findings that the difference between teachers who are committed to the profession and willing to stay in a school comes down to a good professional relationship with teaching colleagues.

This is not to say that autonomy-support and competence-support are not relevant and important, but psychologically novice teachers may need to experience relational-support first. This may be one reason that both autonomy-support and competence-support are not as related to a novice teacher's willingness to stay. Without trust shared at a high level, it may be difficult to have an environment where rules and regulations are perceived as flexible guides rather than punishing evaluations (Ford & Ware, 2018). Additionally, competence-support through professional development opportunities may only occur through relationships with other colleagues due to some of the human capital and financial hardships that rural schools face (Hammer, Hughes, McClure, Reeves, & Salgado, 2005; Player, 2015).

In summary, even though existing evidence indicates that all three need-supports work together to drive teacher well-being and optimal functioning (Adams et al., 2105; Deci & Ryan, 2000; Deci & Ryan, 2013), this study found that relational-support in the form of trust had the strongest effect on novice teachers' willingness to stay in their school. This should come as positive evidence for leaders in rural schools. Relational-support does not require new funding, it is controllable for school professionals, and it conforms to the communal feel of many rural schools aligns with a dominant asset of rural schools.

Implications

Many rural school leaders face challenges of limited budgets, difficult working conditions, and geographical isolation making it difficult to recruit, develop, and retain teachers (Borman & Dowling, 2008; Crawford, 2013; Darling-Hammond, 1999; Hammer, Hughes, McClure, Reeves, & Salgado, 2005; Guarino, Santibanez, & Daley, 2006). Traditionally, many school leaders have turned to induction services to develop and retain their novice teachers (Borman & Dowling, 2008; DeAngelis, Wall, & Che, 2013; Guarino, Santibanez, & Daley, 2006; Fantilli & McDougall, 2009; Ingersoll, 2012). While these programs have been shown to reduce teacher attrition, many rural schools do not have access because of their context (Hammer, et al., 2005; Johnson, et al., 2004; Wei, Darling-Hammond, & Adamson, 2010). Due to this limitation, this research focused on the structure of the rural school being able to provide supports for novice teachers, instead of outside initiatives or programs. Findings lead to implications for leaders of rural schools.

Relational-Support as a Resource

Existing research has defined school resources as class size, curriculum, and teachers' education, credentials, and experiences (Betts, Reuben, & Danenberg, 2000); while other research has characterized resources as purely school expenditures (Burtless, 1996). This study argues that the way a leader organizes their school environment can also be seen as a school resource. Deci and Ryan (2013) claimed social environments can facilitate and enable growth where the human psyche is supported. If school leaders treated their social environments as a resource that is in their control, then they could restructure their schools in order for more collaboration to

occur and learning capabilities met for novice teachers. This could ultimately have an effect on a novice teacher's desire to stay within the district.

Existing research has stated that autonomy-support, competence-support, and relational-support are all three essential within a district and the level that they are experienced by teachers within their relational context has an effect on their growth, fulfillment, and overall wellbeing (Adams et al., 2105; Deci & Ryan, 2000; Deci & Ryan, 2013). However, this research believes that relational-support is the foundation that all other supports are built on. Findings from this sample showed that districts could provide autonomy-support and competency-support, but if novice teachers do not perceive relational-support, then the district is not creating an environment where novice teachers are going to commit to the district for long-term. School leadership should take the steps necessary to foster relational-support for its novice teachers through establishing a sense of belonging and nurturing valued interactions through trustworthy conversations between colleagues. With the limited resources of rural schools, this is a cost-effective method of meeting novice teachers' basic needs and possibly retaining them for a longer period of time.

Providing Professional Development Opportunities

Novice teachers in this sample of rural schools did not experience professional development opportunities at a high level. This is consistent with existing research on rural schools which portrays their lack of funding, geographical isolation, and strained teaching force as constraining professional development (Crawford, 2013; Erlandson, 1994; Fowler & Walberg, 1991; Hammer et al., 2005; Howley et al., 2005). Many teachers in rural schools teach serval different courses which may lead them to perceive

they cannot become an expert in one area (Hammer et al., 2005). Additionally, Player (2015) states rural teachers are 20% less likely to further their education with a master's degree, which could be a result of geographical isolation.

Rural school leaders must address the lack of access to quality professional development. It is imperative to develop the talent within their schools and meet a basic need of competence for their teachers. One way to address this is for school leaders to leverage the strong relationships that teachers have with their colleagues to provide development opportunities. This is a cost effective way to use the existing social networks to collaborate and share knowledge among each other. Item-level findings from this sample supports this claim with the following statements, *I can depend on teachers in my school for help if I need it* (5.38) and *I trust the teachers in this school* (5.23).

Recall that the most common form of teacher development comes from induction programs including mentoring and collaboration with colleagues (Borman & Dowling, 2008; Fantilli & McDougall, 2009). Furthermore, novice teachers tend to perform classroom tasks better and had higher student achievement rates than teachers without these supports (Ingersoll, 2012). By leveraging the level of trust between colleagues in rural schools, leaders may be able to allow novice teachers to experience professional learning opportunities by the way they structure their schools and foster social networks.

Unexplained Variance in Willingness to Stay

A final implication derives from what the study did not explain. With only 14 percent of the variance accounted for by need-supports, many factors contributing to

teachers' willingness to stay were left unexplained. This is not to suggest that supporting novice teachers' basic needs is not important to a rural school environment, or that this is not significant. These factors are vital to districts because they can be formed with little to no expense and are within the purview the school leaders. However, need-supporting processes alone will not be enough to keep novice teachers in their rural schools.

It rests on school leaders to find personally understand factors that may affect novice teachers intent to stay within the district. To accomplish this, school leaders can take time to ask questions, listen to their teachers, and learn from teacher experience. This may allow teachers to provide insight into what novice teacher's needs may be. Face time with administrators was a leading induction service and showed to reduce attrition rates (Borman & Dowling, 2008; Ingersoll, 2012; Ingersoll & Smith, 2004). Leaders also need to understand issues and challenges from the teacher perspective. Allowing teacher input into decision-making is also related to reducing attrition (Darling-Hammond, 1997, 2003; Loeb, Darling-Hammond, & Luczak, 2005). Finally, school leaders need to have a basic understanding of reasons teachers leave. Without an understanding, school leaders may be implementing programs or establishing structures that prove futile and counterproductive.

In conclusion, there are cost effective ways for rural school leaders to address the development and retention of novice teachers. Rural schools may not have control over many of the challenges caused by their location or funding structure. However, leaders can leverage their social networks in a way that addresses the fundamental need

of relational-support and could allow for autonomy-support and competence-support to thrive as a result.

Conclusion

With limited attention directed toward teacher retention and attrition in rural schools, this study set out to determine if malleable social conditions could be used to keep and develop novice teachers. The basic psychological needs dimension of self-determination theory provided a useful framework to understand how structures and process could influence psychological states affecting teacher decisions to remain in schools. Limitation of the research design leaves questions about rural teachers' willingness to stay in their school open, but the empirical results still establish useful evidence for research and practice.

For research, it is critical that more empirical work addresses issues of teacher turnover in rural schools. As mentioned previously, rural schools educate nearly half of the public school students in the US, yet only about 6 percent of educational research takes place in the rural context (Hardre' & Sullivan, 2006). Limited resources and challenges with isolation mean that school leaders have to rely on organic solutions to the attrition problem. This study points to the value of relational supports for addressing the professional and personal needs of novice teachers. That stated, more evidence is clearly needed to build a deeper understanding of what works to attract, develop, and retain teachers in the rural and why different strategies may or may not achieve intended outcomes.

For school leaders in rural schools, findings are somewhat encouraging in that need-supports offer a framework to address a problem that is often viewed as existing

outside the control of principals. Certainly, financial challenges, isolation, and limited economies of sale constrain many rural schools (Hammer et al., 2005; Kukla-Acevedo, 2009; Monk, 2007). Nonetheless, these factors do not necessarily prevent school leaders from organizing teaching and learning in ways that support teacher psychological needs. Need-support establishes an empirically based framework to assist leaders in creating schools where teachers want to teach and end up growing as professionals.

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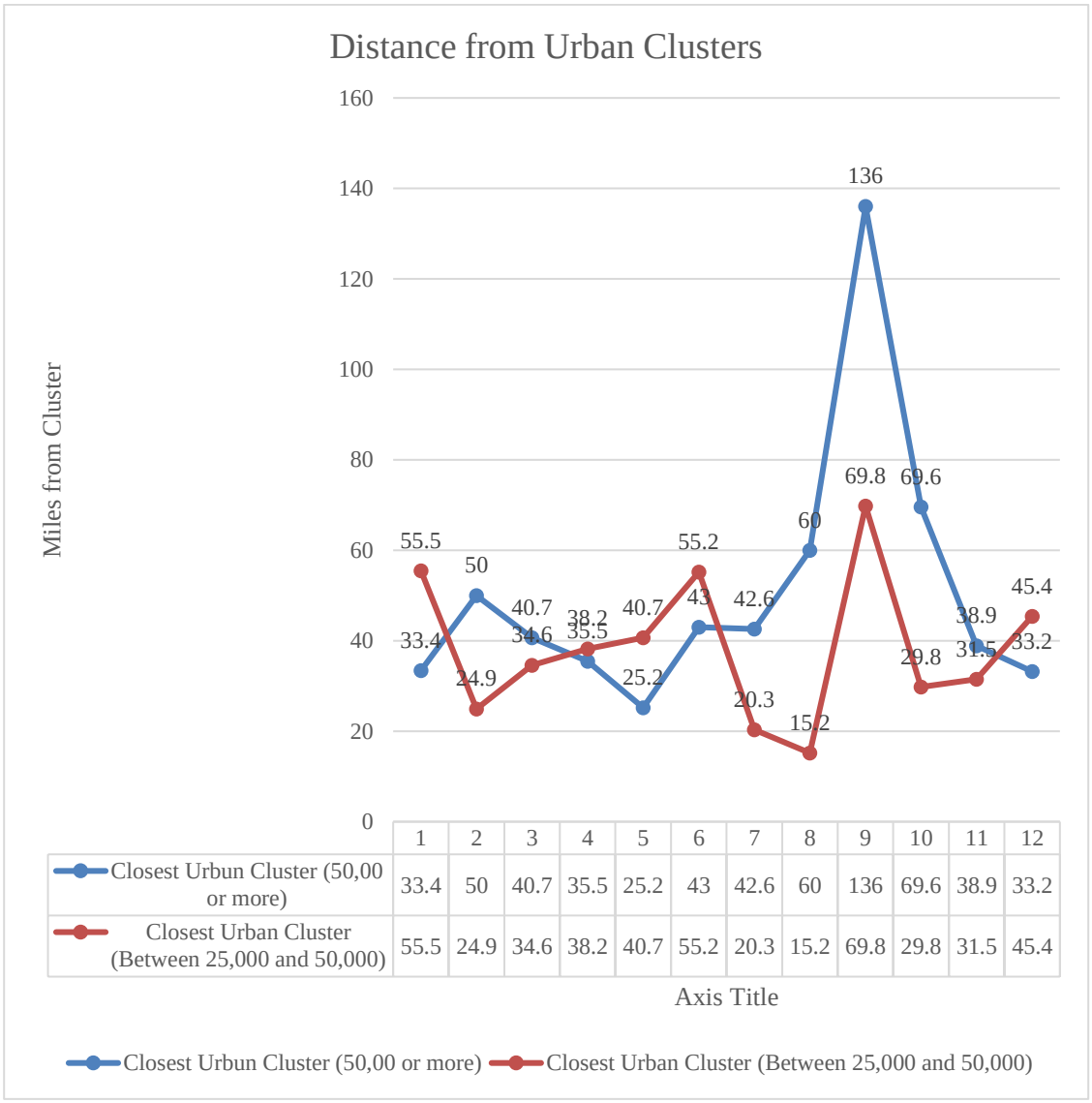
Appendix A

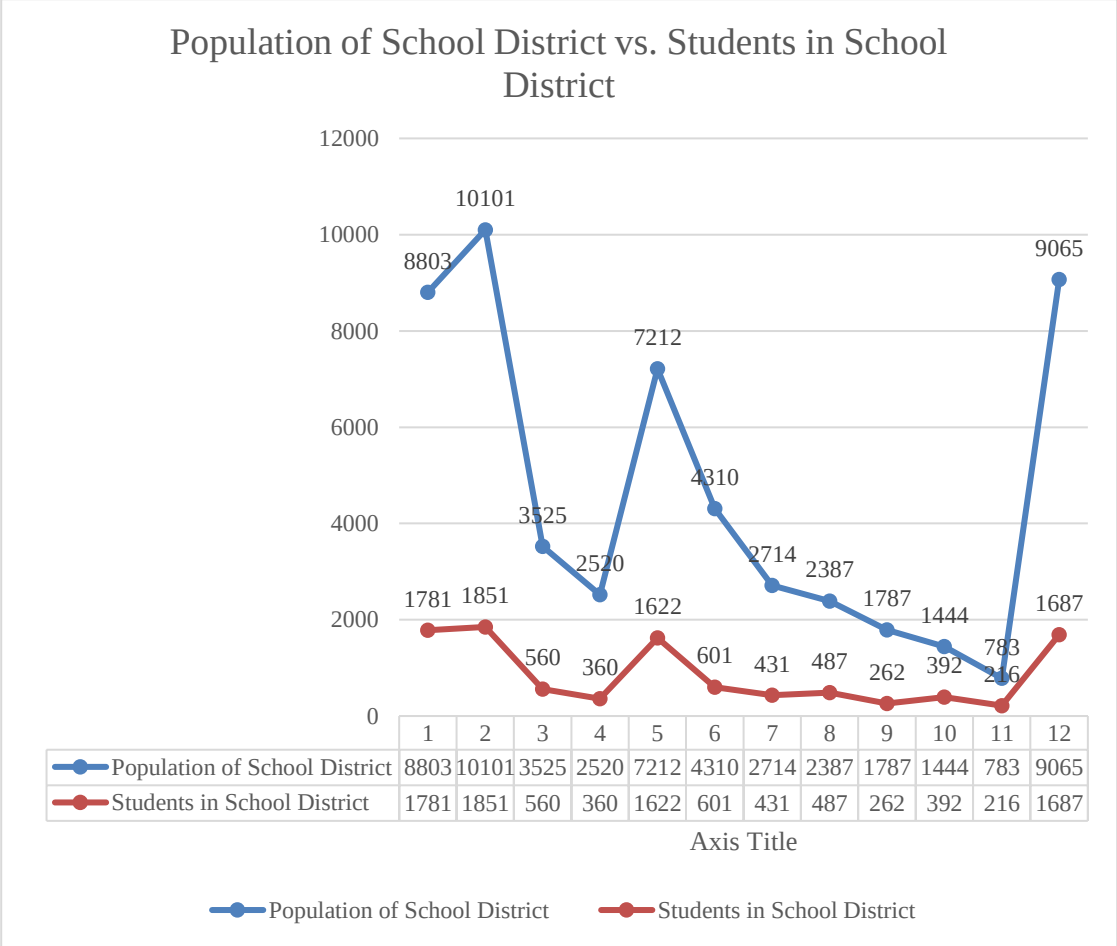
District Characteristics—Distance from Urban Clusters



	1	2	3	4	5	6	7	8	9	10	11	12
Closest Urbun Cluster (50,00 or more)	33.4	50	40.7	35.5	25.2	43	42.6	60	136	69.6	38.9	33.2
Closest Urban Cluster (Between 25,000 and 50,000)	55.5	24.9	34.6	38.2	40.7	55.2	20.3	15.2	69.8	29.8	31.5	45.4

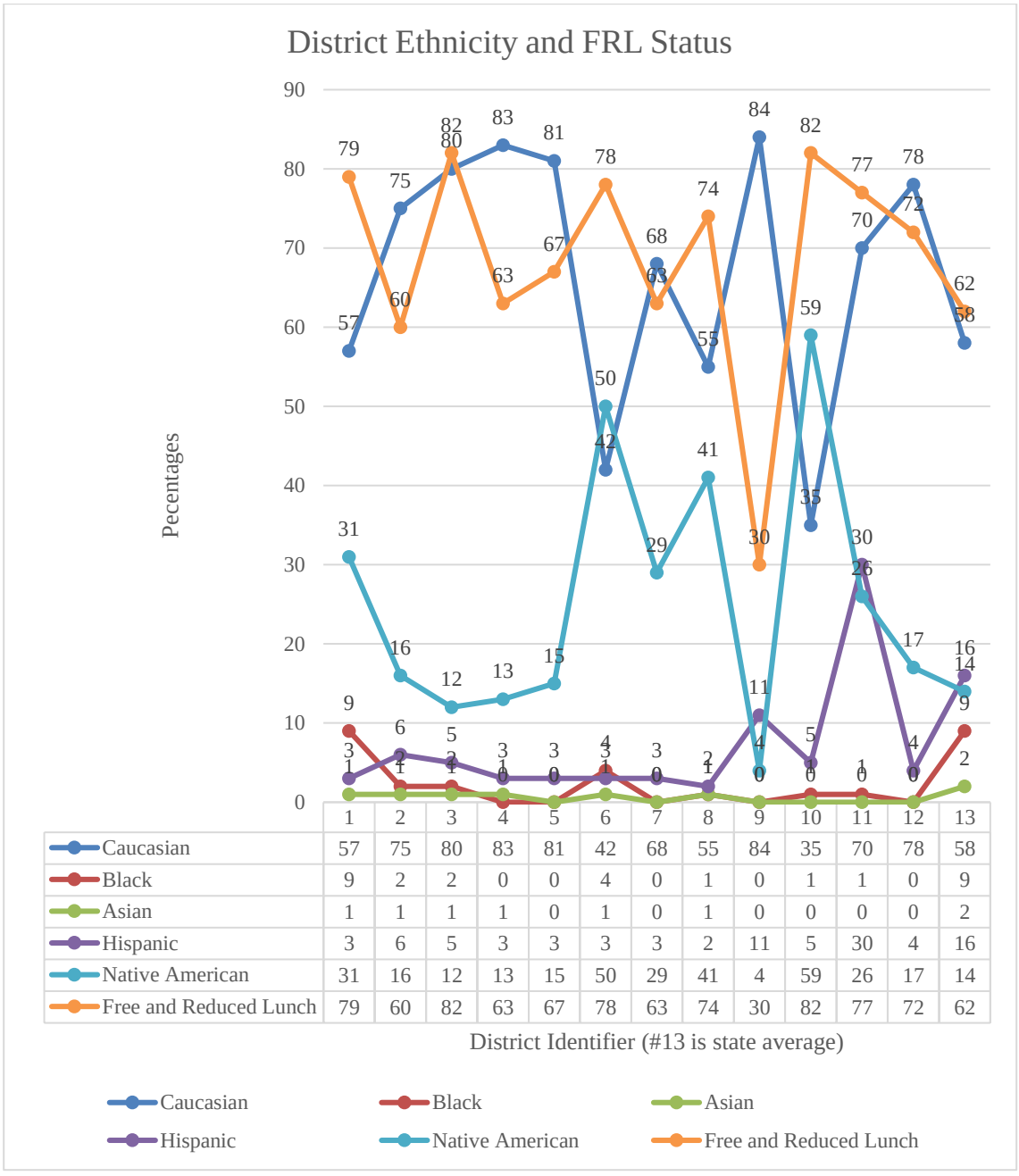
Appendix B

District Characteristics—Population and Enrollment of Districts



Appendix C

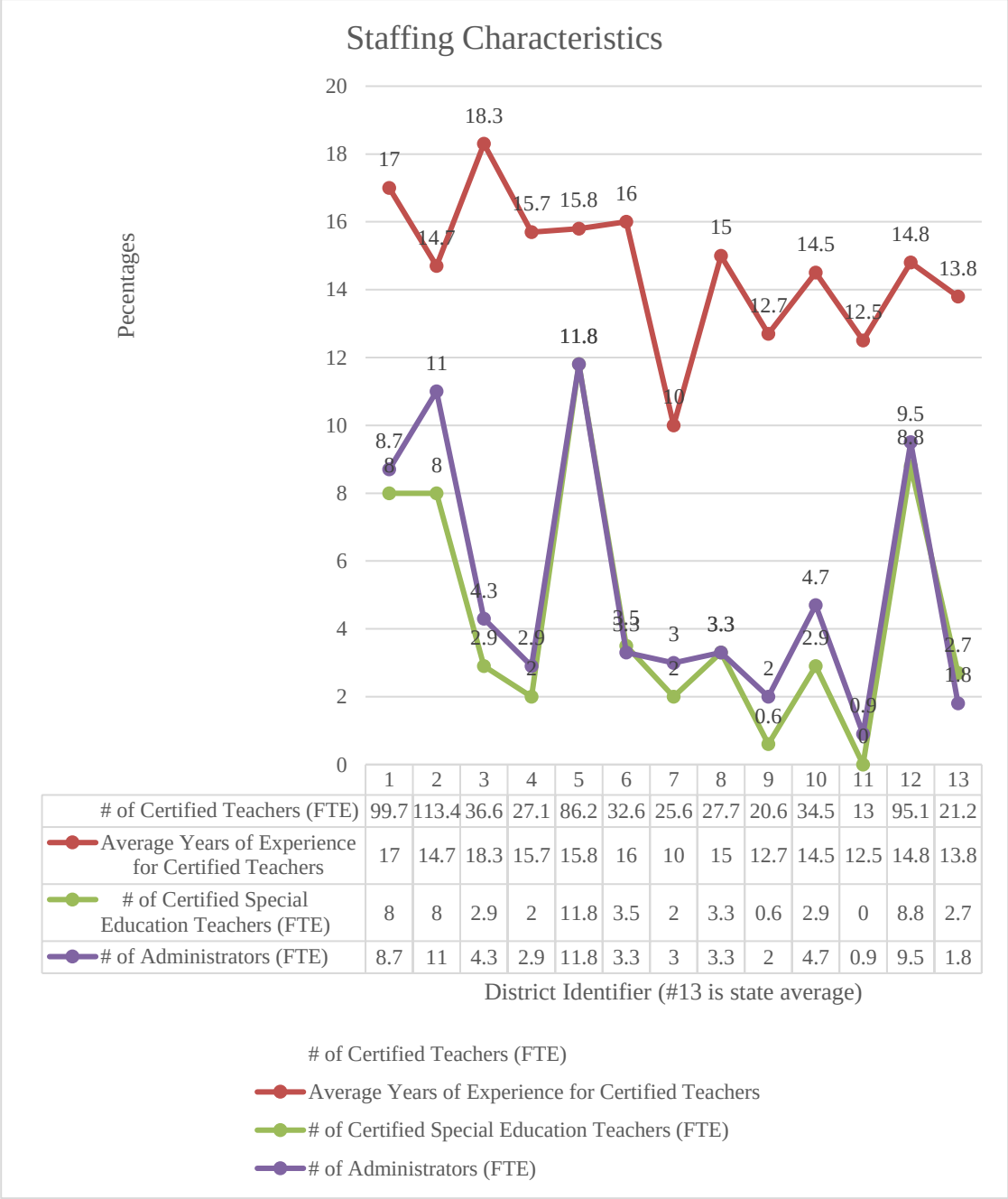
District Characteristics—Ethnicity and Free and Reduced Lunch Status



	1	2	3	4	5	6	7	8	9	10	11	12	13
Caucasian	57	75	80	83	81	42	68	55	84	35	70	78	58
Black	9	2	2	0	0	4	0	1	0	1	1	0	9
Asian	1	1	1	1	0	1	0	1	0	0	0	0	2
Hispanic	3	6	5	3	3	3	3	2	11	5	30	4	16
Native American	31	16	12	13	15	50	29	41	4	59	26	17	14
Free and Reduced Lunch	79	60	82	63	67	78	63	74	30	82	77	72	62

Appendix D

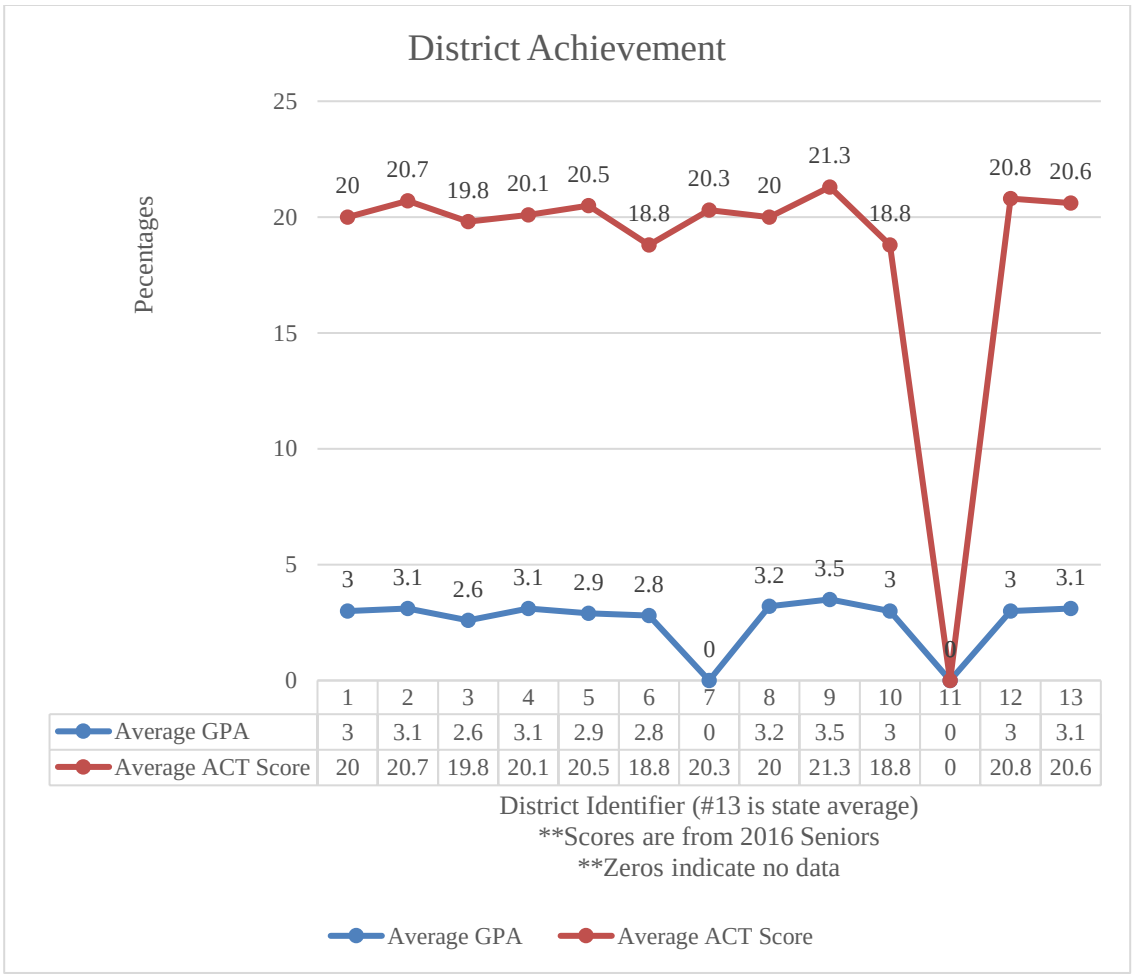
District Characteristics—Staffing Characteristics



	1	2	3	4	5	6	7	8	9	10	11	12	13
# of Certified Teachers (FTE)	99.7	113.4	36.6	27.1	86.2	32.6	25.6	27.7	20.6	34.5	13	95.1	21.2
Average Years of Experience for Certified Teachers	17	14.7	18.3	15.7	15.8	16	10	15	12.7	14.5	12.5	14.8	13.8
# of Certified Special Education Teachers (FTE)	8	8	2.9	2	11.8	3.5	2	3.3	0.6	2.9	0	8.8	2.7
# of Administrators (FTE)	8.7	11	4.3	2.9	11.8	3.3	3	3.3	2	4.7	0.9	9.5	1.8

Appendix E

District Characteristics—Student Achievement Data



Appendix F **Survey Instrument**

Please indicate how much you AGREE or DISAGREE with each of the following statements about your learning experiences at your school (1-Strongly Disagree; 2-Disagree; 3-Somewhat Disagree; 4-Somewhat Agree; 5-Agree; 6-Strongly Agree)

My learning experiences this year…

1. Gave me opportunities to work on aspects of my teaching……..……	1	2	3	4	5	6
2. Provided me with helpful knowledge to use in the classroom…….....	1	2	3	4	5	6
3. Allowed me to focus on a problem for an extended period of time……..	1	2	3	4	5	6
4. Provide me with useful feedback about my teaching…….……..……..	1	2	3	4	5	6
5. Made me pay closer attention to things I do in my classroom……	1	2	3	4	5	6
6. Led me to seek out additional information from teachers, school administrators, or other resources…….	1	2	3	4	5	6
7. Led me to think about teaching in a new way…	1	2	3	4	5	6
8. Led me to try new things in the classroom……	1	2	3	4	5	6

On a scale from 1 to 6 with 6 being the highest, how willing are you to stay in your current district for the next three years? ……	1	2	3	4	5	6

What is your highest educational degree?_____

Including this year, how many years have you taught in your current school? _____

Including this year, how many yours of teaching experience do you have?_____

Please indicate how much you AGREE or DISAGREE with each of the following statements (Strongly Disagree; 2-Disagree; 3-Somewhat Disagree; 4-Somewhat Agree; 5-Agree; 6-Strongly Agree)

9. When teachers in this school tell you something, you can believe them……..……	1	2	3	4	5	6
10. Teachers in this school typically look out for each other……..	1	2	3	4	5	6
11. I can depend on teachers in my school for help if I need it ……	1	2	3	4	5	6
12. I have faith in the integrity of my teaching colleagues……	1	2	3	4	5	6
13. Teachers in this school are open with each other	1	2	3	4	5	6
14. Teachers in this school do their jobs well…….	1	2	3	4	5	6
15. I trust the teachers in this school……	1	2	3	4	5	6
16. I trust the principal in this school……	1	2	3	4	5	6
17. I can rely on my principal for support……	1	2	3	4	5	6
18. I believe my principal is competent in doing his/her job…….	1	2	3	4	5	6
19. My principal does not tell teachers what is going on……	1	2	3	4	5	6
20. My principal acts in the best interest of teachers	1	2	3	4	5	6

Please indicate how much you AGREE or DISAGREE with each of the following statements by filling in the circle that best represents your feeling. (1-Strongly Disagree; 2-Disagree; 3-Somewhat Disagree; 4-Somewhat Agree; 5-Agree; 6-Strongly Agree)

21. Administrative rules in this school enable authentic communication between teachers and administrators…….	1	2	3	4	5	6
22. The administration enables teachers to do their job	1	2	3	4	5	6
23. The administration promotes student achievement	1	2	3	4	5	6
24. Rules in this school help rather than hinder……	1	2	3	4	5	6
25. The administration facilitates the school's mission	1	2	3	4	5	6
26. Rules in this school are meant to help teachers improve……...	1	2	3	4	5	6
27. The administration encourages innovation……	1	2	3	4	5	6
28. The administration encourages teachers to use professional judgments……	1	2	3	4	5	6
29. Rules in this school are guides for solutions rather than rigid procedures……	1	2	3	4	5	6
30. The authority of the principal is used to support teachers……..	1	2	3	4	5	6

Please indicate how much you AGREE or DISAGREE with each of the following statements by filling in the circle that best represents your feeling. (1-Strongly Disagree; 2-Disagree; 3-Somewhat Disagree; 4-Somewhat Agree; 5-Agree; 6-Strongly Agree)

31. I would probably continue teaching at this school even if I did not need the money……	1	2	3	4	5	6
32. I am proud to be part of the faculty at this school…	1	2	3	4	5	6
33. I often describe myself to other by saying I work at this school…….	1	2	3	4	5	6
34. I am glad I chose to teach at this school rather than another school...…… ……	1	2	3	4	5	6
35. I am willing to put in a great deal of effort beyond what is normally expected to help this school succeed……..	1	2	3	4	5	6
36. I have warm feelings of this school as a place to work school…….	1	2	3	4	5	6
37. I find that my values and the values of this school are similar……	1	2	3	4	5	6
38. I feel strong loyalty to this school……..…….	1	2	3	4	5	6
39. I intend to stay in this school for some time……	1	2	3	4	5	6

Appendix G

IRB Approval Letter

The UNIVERSITY of OKLAHOMA

Institutional Review Board for the Protection of Human Subjects

Approval of Initial Submission – Exempt from IRB Review – AP01

Date: November 04, 2015 **IRB#:** 6085

Principal Investigator: Aaron Phillip Espolt **Approval Date:** 11/04/2015

Exempt Category: 2

Study Title: Rural School Teachers, Need-Support, and Willingness to Stay in the School District

On behalf of the Institutional Review Board (IRB), I have reviewed the above-referenced research study and determined that it meets the criteria for exemption from IRB review. To view the documents approved for this submission, open this study from the *My Studies* option, go to *Submission History*, go to *Completed Submissions* tab and then click the *Details* icon.

As principal investigator of this research study, you are responsible to:

- Conduct the research study in a manner consistent with the requirements of the IRB and federal regulations 45 CFR 46.
- Request approval from the IRB prior to implementing any/all modifications as changes could affect the exempt status determination.
- Maintain accurate and complete study records for evaluation by the HRPP Quality Improvement Program and, if applicable, inspection by regulatory agencies and/or the study sponsor.
- Notify the IRB at the completion of the project.

If you have questions about this notification or using iRIS, contact the IRB @ 405-325-8110 or irb@ou.edu.

Cordially,

Lara Mayeux

Lara Mayeux, Ph.D.
Vice Chair, Institutional Review Board