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# Locational Disparity in Rural Education

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## Abstract

Location impacts the quality of education a student receives. Specifically in rural areas, the challenges that students face are unique to their location. The purpose of this literature review on locational disparity in rural education was to understand the complex problems facing rural students and educators. Resource inequities, lower population across an expansive area, and high poverty impact the educational achievement, postsecondary attainment, as well as the special education and gifted programs in these schools. These aspects were analyzed as they paint a cumulative picture of the rural educational experience. As a quarter of the United States population lives in rural areas, it is crucial to understand these issues in order to solve the problems facing these areas.

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## CHAPTER I: INTRODUCTION

An equitable education should be accessible to all students regardless of location. This is a crucial question of what is intended by the right to an education. Rural students simply do not receive the same privileges in their education due to locational disparity. Biddle and Azano (2016) contended that "the changing social circumstances of America's diverse and changing rural communities have created new opportunities and new challenges for rural schools and school districts" (p. 299). The challenges of rural education explored in this paper revolve around achievement and attainment, postsecondary preparation and completion, gifted and talented programs, and special education services.

Educational "resource inequalities translate into important educational investments at both family and school levels, and help explain deficits in attainment and standardized achievement" in rural schools (Roscigno et al., 2006, p. 2121). Students from rural areas are more likely to have a disadvantage when it comes to the availability of resources as compared to their suburban counterparts (Roscino et al., 2006). Rural students who lack educational resources, both at home and at school, realize a lower level of academic achievement and are more likely to drop out of school (Roscigno & Crowley, 2001). This impacts their success in postsecondary education. Further, the economic factors in rural areas increase the probability of dropout rates and underachievement, as poverty is cyclical and a hard situation to get out of (Pink-Harper, 2015). Fishman (2015) found that "one in four rural children live in poverty, and of the 50 U.S. counties with the highest child-poverty rates, 48 are rural" (p. 1).

Educational resources influence how well students do academically in their postsecondary experience. Byun et. al (2012) found that rural students who attended four-year

colleges were more likely to be from lower-income families and first-generation college students as compared to suburban students. Overall, their academic backgrounds were not as intense, and this caused a strain on their educational attainment (Koricich et al., 2018). Although the number of rural students who attend postsecondary institutions has been rising over the past decade, there are barriers that need to be understood in order to help these students succeed (Goldman, 2019).

In special and gifted education, two key factors impact rural students: identification and services. Rural areas are more likely to struggle economically and be impacted by low population, lack of resources, and high poverty, which makes these financial problems even more prevalent (Chandler, 2018). Identifying these students as gifted or special education is key to provide a positive educational outcome for both of these types of students. Once these students are identified, the availability of programmatic resources is low (Siegle et al., 2016).

**Personal Experience**

When I entered college in the fall of 2011, I thought I was prepared. I had been on the honor roll every trimester throughout my high school career and juggled a job and many extra-curricular activities. I was “the ideal student.” That fall, my grades unexpectedly faltered as I had never experienced the rigorous academic standards required of postsecondary education. I never had to study up to this point in my education, and I never once had to cite a source in an academic paper. Essentially, I came to college unprepared to successfully continue my education. My collegiate peers who were mostly from suburban areas surrounding Minneapolis-St. Paul did not seem to share in this struggle. They had the skills to prosper in

college; they had written papers that cited academic sources, and they actually had needed to study in order to be good students.

However, growing up in a rural area also allowed me to obtain skills that my suburban classmates did not. Classmates were surprised to know that some of my high school class options included taxidermy, small gas engines, multiple types of welding, CNA certification, and even home construction (students built an entire house every year on school property then auctioned it off upon completion at the end of the school year). This may sound like a dream school for those interested in trade work, but it was not conducive for those not interested in the trades. Due to the rural location of my hometown, the high school focused on preparing graduates for the workforce. It is also worth noting that the majority of my graduation class neither attended nor finished college.

I currently work at a rural conglomerate school in south-central Minnesota. I see the same experience I had in my own education reflected in that of my students. The only difference between my experience and the experience of students is the lack of programs to choose from. The school district, although they recently passed a referendum, had to close a school, cut their multimedia and woodworking classes, and reduce multiple staff positions. The only available classes currently offered outside of core curriculum (i.e., English, math, science, and social studies) are Family and Consumer Sciences classes (i.e., culinary and interior design), band, choir, and agriculture. There are no art classes, and the Advanced Placement class options are extremely limited, with none currently being offered for the coming school year. There is also no preparation for working in the trades, as the woodworking and mechanics classes were cut for the coming school year.

The plight of the rural student is often overlooked in the United States as there is very limited research on rural students, according to Stone et al. (2018). What is known is that "students living in rural areas of the United States exhibit lower levels of educational achievement and a higher likelihood of dropping out of high school than do their nonrural counterparts" (Roscigno et al., 2006, p. 2121). As more than 20% of the population of public school students attended rural schools (as of the 2010-2011 school year), the deficits in rural education influence a notable portion of the population (Siegle et al., 2016).

The lack of policy geared towards rural education makes a significant impact on rural students' ability to be successful (Lewis & Boswell, 2020). Koricich et al. (2016) notes that other areas of public policy, such as health care, and economic development have made attempts to provide better care and opportunities to rural citizens, but the realm of education still has yet to improve significantly and continues to be a challenge. On the state and federal level, policies push rural schools to operate more like suburban schools, rather than use their location to their advantage and understand their unique needs (Fishman, 2015). Miller et al. (2019) suggested starting at the community level and embracing the quality of a small population in a less expansive location by implementing things like community libraries. Lewis and Boswell (2020) explained that policy at both the federal and state level continues to overlook rural areas which causes further misunderstandings of the challenges and opportunities of the rural public school system which creates more questions than answers.

**Definition of Terms**

The following is a list of terms and their definitions that are utilized throughout this project.

***Rural***

"In, relating to, or characteristic of the countryside rather than the town" (Lexico Dictionaries). The U.S. Census Bureau (2020) defines rural "as any population, housing, or territory not in an urban area." There are two classifications for urban: 1) Urbanized Areas (UAs) of 50,000 or more people; and 2) Urban Clusters (UCs) of at least 2,500 and less than 50,000 people. Anything that does not fall into these two categories is considered rural.

***Academic Achievement***

This term describes "academic outcomes that indicate the extent to which a student has achieved their learning goals" (Tophat.com, n.d., para. 1). Academic achievement can refer to all levels of education.

***Special Education***

Special Education is "specially designed instruction, at no cost to the parents, to meet the unique needs of a child with a disability." This includes "(i) Instruction conducted in the classroom, in the home, in hospitals and institutions, and in other settings; and (ii) Instruction in physical education" (Individuals with Disabilities Education Act (IDEA), 2017, para. 1).

***Gifted Students***

"Gifted individuals are those who demonstrate outstanding levels of aptitude or competence in one or more domains." Aptitude is "defined as exceptional ability to reason and learn" and competence means "documented performance or achievement in the 10% or rarer" (National Association for Gifted Children, n.d., para. 3).

### *Educational Attainment*

"Educational attainment is defined as the highest grade completed within the most advanced level attended in the educational system of the country where the education was received" (oecd.org, n.d., para. 2).

### *College Readiness*

This term is defined as "the level of preparation a student needs to enroll and succeed—without remediation—in a credit-bearing general education course at a postsecondary institution" (Educational Policy Improvement Center, 2007, para. 6).

## Research Question

An equitable education should be accessible to all students regardless of their location in the United States. As a rural student and now teacher, I have noticed a disparity in the types of classes, the available classes, and the level of preparation provided for students' futures. The following research question guided this study: In what ways does a rural location impact students' education? This overarching question is broken down into three more specific questions: 1) How does location affect the academic achievement of rural students?; 2) How does the college preparation of rural high schools compare to their suburban counterparts?; and 3) How does location impact the education special needs and gifted students receive?

## CHAPTER II: LITERATURE REVIEW

The studies in this literature review focus on different aspects of rural education in the United States. Originally, studies regarding academic achievement and attainment were the focus but due to the lack of research on that topic specifically, this search had to be expanded to include college readiness, special education, and gifted and talented education. There are also studies included in this literature review that give a background on rural education in the areas of school reform (Fishman, 2015), rural education in Minnesota (McMurray & Ronningen, 2006), and general rural education (Biddle & Azano, 2016). The grade levels represented in these studies include elementary, middle school, high school, and college students. Selected studies also had to have been conducted within the last twenty years in order to be considered relevant and accurate to rural education today; studies over twenty years old were excluded from this literature review.

Databases in the Bethel University online catalog were used for this research. The CLICsearch tool was utilized which searches for scholarly articles across numerous databases including Gale OneFile, EBSCOhost, and SAGE JOURNALS. The search was narrowed to only include journals, review, theses/dissertations, and digital books. The consistent keywords used were “rural education.” This had to be specified to “rural education” and “United States” in order to remove the numerous studies about rural education in other countries. I kept the key words “rural education” and “United States;” then I added other terms including attainment, achievement, and completion.

Additional keywords to further the research included the following: postsecondary, special education, gifted and talented, disparity, recruitment, college, inequality, resources,

location, aspirations, and programming. Each article included in this study could have also included comparisons between rural, urban, and suburban. These did not have to be generalized to the United States of America; in some cases, they were a single state case study. The selected studies also had to examine a rural education situation in an academic setting in an elementary, secondary, or postsecondary education level.

**Narrowing Process**

The research began with using the search engine and searching for rural education, which resulted in studies from around the world. Not wanting to expand beyond the United States, studies done regarding other countries were excluded from this review in order to narrow the information gathered and keep it localized. Three studies, though broad, provided a background on rural education information for understanding the context in which these studies took place (Biddle & Azano, 2016; Fishman, 2015; McMurray & Ronningen, 2006).

Originally, the intention was for the review to solely focus on academic achievement. However, it was found that only six sources to be substantial enough to include (Gagnon & Mattingly, 2016; Irvin et al., 2011; Miller et al., 2019; Roscigno & Crowley, 2001; Roscigno et al., 2006; Wilcox et al., 2014). It was then expanded the search to include college readiness which produced ten studies that focused on rural college readiness and attainment (Burr, 2006; Byun et al., 2012; Goldman, 2019; Klugman, 2012; Koricich et al., 2018; Li, 2019; McCauley, 2020; Pink-Harper, 2015; Schmitt-Wilson et al., 2018; Stone et al., 2018).

Expanding the search a third and fourth time was needed in order to create a sufficient review; as a result, articles were searched for regarding rural education that included special and gifted education. This resulted in seven sources for gifted education (Azano et al., 2014;

Howley et al., 2009; Kettler et al., 2016; Kettler et al., 2015; Lewis & Boswell, 2020; Puryear & Kettler, 2017; Siegle et al., 2016) and four for special education (Chandler, 2018; Hawley et al., 2017; Jones Ault et al., 2019; Rude & Miller, 2018).

**Article Selection**

All of the articles included in this review focus on how location impacts educational attainment, college readiness, or special and gifted education. These articles include students from grade levels kindergarten through postsecondary.

Of the 30 studies, 13 involved qualitative research; whereas the remaining 17 conducted used quantitative research. The 13 qualitative studies relied on examining past research (Biddle & Azano, 2016; Burr, 2016; Fishman, 2015; Hawley et al., 2017; Koricich et al., 2018; McMurray & Ronningen, 2006; Siegle et al., 2016), surveys/questionnaires (Azano et al., 2014; Chandler, 2018; Jones Ault et al., 2019; Li, 2019; Stone et al., 2018), and semi-structured interviews (Wilcox et al., 2014).

Of the 17 quantitative studies, five used data from the National Educational Longitudinal Study (Byun et al. 2012; Klugman, 2012; Roscigno et al., 2006; Roscigno & Crowley, 2001; Schmitt-Wilson et al., 2018) and seven used the National Center for Education Statistics as their main resource (Gagnon & Mattingly, 2016; Goldman, 2019; Irvin et al., 2011; Kettler et al., 2016; Lewis & Boswell, 2020; McCauley, 2020; Puryear & Kettler, 2017). The remaining studies also used varied other forms of data collection along with their main courses like the U.S. Census Bureau (Pink-Harper, 2015), rural policy research and statistics (Howley et al., 2009; Rude & Miller, 2018), Academic Excellence Indicator System (Kettler et al., 2015), and other publicly available sources (Miller et al., 2019).

Chapter II is split into five sections: 1) Background in Rural Education 2) Achievement and Attainment 3) College Readiness and Experience 4) Special Education and 5) Gifted/Talented Education.

## Background in Rural Education

Fishman (2015) claimed that rural life is challenging; from not being able to access high-speed internet and escalating drug use, to the lack of certain perks found in city centers, there is nothing to attract those from outside to move to these areas. Around one-fifth of students in the United States live in rural regions, one in four of those students live in poverty, and out of the top 50 counties in the US with the highest child-poverty rates, 96 percent of them are rural.

According to Fishman (2015), more education policies on state and federal levels ignore the advantages to living in these rural areas and push rural schools instead to operate like the larger schools in more suburban areas. In order to improve rural education, Fishman (2015) noted that “various types of policies, including compliance and reporting requirements, teacher certification and evaluation schemes, funding formulas and grants, and the broader category of "innovation killers," disadvantage rural schools in particular” (p. 8).

In a qualitative review of previous literature, Fishman (2015) found more of a priority should be put on the search and support for bringing new business opportunities to rural areas in order to benefit the economies and therefore boost funding in the area. As well, there ought to be a greater emphasis on cultivating organizations that focus on education. “An influx of capital from a prestigious venture fund, coupled with the buzz, magnetic draw, and talented mentorship this offers, could usher in a new wave of leaders from outside and within who focus on rural education issues” (p. 7).

Fishman (2015) argued that the “education system that was lackluster in urban America was perhaps even more so in rural areas” (p. 15). Schools wanted to give students a proper education, but there was an imbalance between preparing students for college or for a career. Fishman (2015) purported that it was an area’s desire to preserve their communities that caused inequality in college readiness. The population that attained education beyond secondary were more likely to leave rural areas for greater opportunities which causes long-term economic decline in the area.

Biddle and Azano (2016) investigated 100 years of rural education; they reviewed previous research on rural teacher “recruitment, retention, and training as a case study to examine the constancy and change in the construction of the ‘rural school problem’” (p. 298). Globalization has impacted the rural landscape as agriculture changes hands from family-run farms to large-scale farming operations. Resource extraction has gone through both booms and busts as more favorable financial circumstances take production and labor abroad. This can spur the outmigration of young people for greater opportunities in urban and suburban areas, as rural areas experience a drain on their local resources.

Biddle and Azano (2016) found literature in the *Journal of Research in Rural Education* and *The Rural Educator* and they identified four main themes across the articles: processes of school improvement, relationships between school and community, recruitment, retention, and training of teachers, and achievements and aspirations of students. The literature they reviewed was narrowed down to a singular topic: teacher recruitment, retention, and training, because it is an issue that can be controlled and ultimately solved within the schools rather than on the state or federal policy level. Over the past century, scholars have “tried to make

sense of the unique educational needs of rural communities within these changing social and economic contexts" (p. 299). In 1909, the U.S. Commission on Country Life reported on the status of rural America living. Three years later, distinguished educational reformer Ellwood Cubberley coined the term "rural school problem" while discussing the challenges rural schools face. Other progressive educational reformers reiterated Ellwood's bemoaning and for over a decade before rural education became "the gravest of American problems" (Brooks, 1926, as cited in Biddle & Azano, 2016, p. 299). In the 1980s, the archaic nature of rural life was becoming more apparent and a concern for researchers. This was not the first time that this issue was expressed, as researchers in the early twentieth century were concerned with the "provinciality of rural life and people, the administrative inefficiency of rural schools, and the lack of adequate preparation for rural teachers" (p. 300).

Biddle and Azano (2016) found that in the past century, "education researchers' changing perceptions of rural contexts; the manifestations of these changes as they relate to preparing, recruiting, and retaining the teacher labor force in these areas; and by extension, the changing nature of rurality itself during these periods" (p. 314). The idea of the "rural problem" has changed over time, all the while concerns about the equity of schooling as it pertains to rural communities has been at the forefront. This study, while not discounting the issues urban schools face, cautions future researchers to "reevaluate education's relationship to marginalized places and spaces in a holistic and inclusive way" (p. 316).

McMurray and Ronningen (2006) examined the many challenges that rural Minnesota schools face due to spread-out populations, aging infrastructure, financial hardships, and declining school enrollments that will more than likely persist into the future. In Minnesota, K-

12 enrollments have fallen in general, but the hardest hit areas have been rural. Currently, there are 336 school districts in Minnesota, 52 of which account for 12% of its area yet only 8% of its students. These 52 districts enroll between five to nearly 10 students per square mile. One hundred seventeen districts have between two and five students per square mile. This covers almost 35% of the state while representing only 9% of the enrollment population. Finally, 45 districts have between one and two students per square mile; this covers 17% of the state's geographic area but only contains three percent of the student population. The 23 least-dense school districts have less than one student per square mile, which covers over 22% of the total geographical area (McMurray & Ronningen, 2006).

Students in these rural areas are more likely to qualify for free or reduced-price school lunches than their urban counterparts. In fact, districts with less than two students per square mile have more than 40% of their students eligible for these meals. In the past, metro areas of Minnesota tended to have more linguistic diversity, but in rural areas, the population of students who speak a language other than English at home has increased by 20,000 students. This has occurred most in the southern part of the state, which has created a higher concentration of English language learners in this area. In these schools, enrollment declines have had the biggest impact. Enrollment fell 10% in areas with two to five students per square mile and 17% in areas with one to two students per square mile. Enrollments in these schools also fell at every grade level. Overall, the largest declines are taking place in rural areas, but Minnesota as a whole is experiencing falling enrollments. With fewer students enrolling in elementary grades, this is a trend that will continue. Nonetheless, these rural districts will still have to continue to provide the same level of educational services to a smaller and smaller

student population, while their “state aid per-pupil revenues are shrinking” (McMurray & Ronningen, 2006, p. 19).

## Achievement and Attainment

In a study examining resource inequalities in urban and rural schools, Roscigno, Tomaskovic-Devey, and Crowley (2006) researched “resource availability, investment inequalities and implications for achievement and attainment among urban, rural and suburban adolescents” (p. 2122). This study procured data from the Common Core of Data (CCD) and the nationally representative data set from the National Educational Longitudinal Survey (NELS), which draws from student, parent, teacher, and principal components. The data included controls for individual, family, and school characteristics and measured location, both urban and rural, school resources, family investment in education, and achievement outcomes. The information about the community was provided by the principal of the student’s school. In 1988, the first wave of data, NELS randomly selected samples of 25 eighth grade students from around 1,000 schools. With high follow-up response rates, these students were tracked in the second and third waves, in 1990 and 1992, respectively.

Locations are categorized by the school principal. Locations characterized as rural or farming were put into the rural category. Those characterized as large, inner city, or metropolitan were considered urban, and the other schools fell into the category of suburban and urban fringe. Nearly 20 percent of the sample students were located in rural areas, six percent were from urban areas, and the rest resided in suburban locales. Standardized math and reading tests, produced by the Educational Testing Service, were used for the

measurement of achievement and attainment outcomes. These tests were considered beneficial to the study as they were standardized across school and location (pp. 2125-2126).

Due to the nature of the local economy, Roscigno et al. (2006) discovered that rural and urban areas were more likely to have a disadvantage when it to the availability of resources, when compared to suburban schools; “recognizing both the spatial patterning of opportunity and the ways in which local opportunity permeates or mitigates inequality through more familiar and proximate institutional (i.e., family and school) channels” (p. 2124). If a school is better able to invest in education, it is reflected in student achievement. These investments, such as a lower student-teacher ratio or more AP courses, results in higher levels of achievement.

Roscigno et al. (2006) found that rural and urban students were more likely to drop out of high school and even performed more poorly academically when compared to suburban students. These factors were further aggravated by the financial shortcomings. Rural areas commonly had lower property and corporation taxation and were allocated $600 less per student than suburban schools every year. In urban areas, insufficient funding resulted from societal structure, racial issues, and lower household income.

To summarize, Roscigno et al. (2006) stated that “families and schools in America’s inner cities and rural places simply lack many of the resources that promote educational achievement and attainment” (p. 2139). Students in these schools were more likely than their suburban counterparts to drop out of high school and exhibited lower educational achievement. Beyond the fact that these areas tended to have larger families and lower levels of parental education, they also had higher concentrations of poor students with lower per-pupil expenditures.

According to Roscigno (2006), these resource shortfalls at home and in the schools, illustrate the deficits in urban and rural achievement and attainment.

In a 2001 study on rural education, Roscigno and Crowley sought to continue to expand on the already existing literature by examining the resources that influence achievement and attainment. They stated that "students living in rural areas of the United States exhibit lower levels of educational achievement and a higher likelihood of dropping out of high school than do their nonrural counterparts" (p. 268). There is a disparity between the achievement of suburban students and rural students. According to Roscigno and Crowley, rural students often have less family and school resources than their suburban counterparts. Suburban students have greater access to more and better educational resources, which means they experience a higher level of academic achievement and attainment.

Roscigno and Crowley (2001) drew from three waves of the National Educational Longitudinal Survey (NELS) and Common Core of Data (CCD) for their data. The NELS collects and maintains a large and nationally representative sample of not just student components, but also parent, teacher, and principal. The first wave was conducted in 1988. A random sample of 25 eighth-grade students from 1,000 middle schools were pulled by The National Center for Education Statistics. The researchers followed up with these students in 1990 and 1992; the follow-up response rates were high. School and district data came from the CCD, which is the database most used by the National Center for Education Statistics for public elementary and secondary school data. For this particular study, the CCD information included data on racial composition and educational spending. The information used to measure rurality was provided by the principal of the student's school. Even though this can be subjective, it takes into

account the school's geographic location and qualitative factors such as character, which the census designation of rurality would not as it just focuses on population. Achievement was measured by standardized testing in math and reading using tenth-grade scores. Family resources were measured by examining family income and level of parental education.

The disparity in income and parental education and the lack of resources create a disadvantage for rural students. Achievement and attainment are shaped at both the family and school level. Roscigno and Crowley (2001) predicted that rural parents would lag behind nonrural families in parental income and education. Indeed, they found an income gap of approximately $8,000 between rural and nonrural families as well as a significant disparity in parental education. Also, spending per pupil was significantly lower than that of metro schools; in fact, nonrural schools spent $700 per year more on students than rural schools. Lower taxes in rural areas and issues with passing school referendums also cause problems with generating additional revenue.

Poverty is a key factor that influences the experience of many rural youth and increases the probability of educational issues such as dropout rates and underachievement. This hardship tends to be intergenerational and affects 20% of students who live in rural areas. Irvin et al. (2011) studied high-poverty rural areas and how the relationship between school characteristics and the aspirations and achievements impact rural students. They also compared educational outcomes of both high and low poverty rural communities. The purpose of the study was to investigate whether the school characteristics and experiences either encourage or constrict the academic achievement of students in these communities and the differences in the relationship between these two aspects and poverty level. School

characteristics examined in this study "included grade span, percent of students eligible for free lunch, pupil-teacher ratio, location, school size, and percent of students from racial/ethnic minority backgrounds," while "schooling experiences included college preparation program, postsecondary preparation activities, academic self-concept, school valuing, and school belonging" (p. 1228).

Students numbering 6,247 in all from 43 low-poverty and 21 high-poverty areas participated in the study. These students completed a questionnaire administered by their teacher and on-site researchers. In order to identify poverty level and location, the researchers used U.S. Census Bureau and National Center for Education Statistics (NCES). Rural communities with 20% or more of their residents meeting the annual US Census Bureau definition of poverty were noted as high poverty. The study found that school characteristics did in fact act as a predictor of achievement for high-poverty rural students but not for their low-poverty counterparts. School characteristics were not a predictor of educational aspirations for either group of students. There were, however, small but notable differences between the attainment and ambitions of high and low poverty students. Some of the findings were inconsistent with previous research. For example, students attending high-poverty with grades K-12 housed in the same school tended to have lower educational attainment, whereas previous research had said schools with wider grade spans had a positive impact. They also found no relationship between school location and academic achievement, whereas prior studies showed that students in these remote locations may not have had the support.

This study, with its large and diverse rural sample, showed that rural students "have high aspirations for their future" (p. 1238). By controlling for the background of the students

and their families, this study focused more on the school context and its contributions. Predictions can be made for the academic achievement of rural students in high-poverty areas, even though the retention of teachers is a challenge for rural schools, for it is the small class sizes, not the school size, that is a positive.

Gagnon and Mattingly (2016), studied how access to Advanced Placement (AP) classes, and how enrollment and success in those classes differed depending on the location of the school. Seeking to fill the gaps left by other researchers, this study used regression to analyze access, enrollment, and success across a range of school districts in the United States.
In recent years, there has been a push for schools to raise their common standards and better prepare students for postsecondary education. The number of students who took AP courses doubled between 2002 and 2012 to over two million students. Even though AP course participation became more common, rural areas still struggled to provide access to these courses. The researchers noted that “for gifted students in rural schools, a lack of AP coursework offerings would present a significant threat to equal opportunity given they could not demonstrate this college-readiness in the same manner as their more urban peers'' (p. 267).

Only 51.4% of rural districts enroll at least one student in AP courses, which is significantly lower than the 78.3% of town districts, 93.8% of suburban districts, and 97.3% of urban districts. These aforementioned district types also have an enrollment rate that is 30% higher than that of rural districts. In terms of success rate, suburban districts have the highest level, as 45.3% of AP-enrolled students pass at least one exam. In contrast, rural districts have a 31.8% success rate. These numbers reveal locational disparity in AP availability, enrollment, and

success and these have implications for educational opportunity of rural students. Gagnon and Mattingly (2016) also noted that these areas might not see the need for AP course work as they might not have a high number of students who would take these classes or the available staff to offer them.

AP is a widespread program but is not the only option for students seeking challenging courses and the possibility of college credit. Gagnon and Mattingly (2016) suggested alternatives to AP that might be more feasible for rural students, "including dual enrollment, distance learning, and district-developed curricula" (p. 278). Even though the data does not reflect whether or not these alternatives can replace AP coursework, they are nonetheless possibilities that may be more attainable and create a more equitable level of coursework rigor education for rural students.

Achievement varies among students in rural, suburban, and urban communities. Miller et al. (2019) studied poverty and how that intersects with location to influence education. This study sought out to explore how community-level stressors and resources can impact achievement. Poverty has changed depending on where students are geographically in the United States. The researchers explained that there exists a lack of literature on the rural poor. This study is important as it evaluated the intersection between location and poverty and its influence on families and students.

The data was acquired through publicly available data sources that were geocoded and then matched to the addresses of the children. The study then analyzed several community aspects, such as "social service availability was multiplied by a factor of ten, toxic releases divided by one hundred, and crime divided by one thousand" (p. 112). After adjusting for the

demographics of the children and their families, it was found that rural students had lower academic skills than those of children in suburban areas. As far as community resources, such as parks and cultural activities, children in rural areas had the fewest as compared to suburban and urban children. This finding is unsurprising, for in more desolate areas, the population is more sparse and there is less of a perceived need for these resources. As for community stressors, rural children did have more positive experiences; they are less likely to be exposed to crime and violence than those in urban areas. Children in urban communities, although living in areas with rich cultural aspects, tended to have to deal with more crime. In order to best impact the academic outcomes of these rural students, the researchers suggested enacting policies and programs that target the community such as library outreach programs.

Wilcox et al. (2014) analyzed rural high school completion in six different districts in New York in order to understand what qualities these schools possess in order to ensure average or above average graduation rates. The context of this study was New York state, which has over 700 districts and many of them rural. New York has high graduation requirements that have only increased since 2005, as outgoing students must pass five exit assessments called Regents Exams. The six districts sampled were considered to be located in durable agrarian areas, whose economies focused on agriculture. These schools were not located in resort areas, which have higher property taxes that contribute greatly to the districts they are located in, and all have graduation rates that are either above average or average, when compared to similar schools.

The data for this study was collected using semi-structured interviews and documentary evidence, which included curriculum maps, pacing guides, and other school and district

planning materials. The interviews were conducted with teachers and administrators, with each school providing five to ten teachers and two to five administrators. A total of 63 interviews were undertaken and then analyzed. The study found that these schools do face the same challenges consistent with locational disparity found in other research. Much like other rural schools in the United States, there are declining enrollment rates, financial resources disparities, and lower property values. The higher performing schools, however, overcome these issues by

> (a) the qualities of academic goals, expectations, and learning opportunities; (b) the nature of individual and collective educator efficacy; (c) the strategies that educators used to develop and maintain family relationships and engage community members; and (d) mechanisms for adapting instruction and employing interventions for students at risk of dropping out. (p. 7)

Due to the size and location, many rural schools are unable to provide a range of challenging and diverse classes and programs in order to meet all student needs. However, that did not deter these schools from maintaining very high expectations for their students. The districts with better graduation rates often had deep rooted beliefs that each student could meet these expectations. Instead of lowering their standards for some students, they give students the proper assistance, regardless of ability, in order to pass the state mandated tests. The districts considered to be higher performing also made significant effort to use resources beyond what is offered in their schools. Some of these resources included networking with other schools in order to collaborate on best practices that could improve their schools. They also used technology to their advantage by providing distance learning and virtual field trips

that take them to locations they might not otherwise be able to experience. Average districts did not take advantage of these opportunities, as they did not participate in professional development nor offer courses outside of their school.

When it came to efficacy and engagement, faculty in higher-performing schools not only had relationships with the students but also their families and the community. This is unique to rural schools, as the smaller nature of these locations more commonly allows for these relationships to be built. This directly influences graduation rates as students see the involvement of their educators and that they genuinely care about their education. Rural areas have a strong sense of place with school being the center of these communities.

## College Readiness and Experience

In a 2015 study, Pink-Harper explored the role that educational attainment plays in the economic development of rural communities. Human capital is crucial to the economic prosperity and long-term stability of an area and the education rural students are able to achieve and then bring back to their hometowns can positively impact these locations. Pink-Harper (2015) sought to determine whether the level of educational attainment affects the economic growth and development efforts of nonmetropolitan areas with or without a research university" (p. 167). Universities, and especially research universities, do serve their surrounding communities as both "economic growth hubs and as facilitators of higher education" (p 167).

They recruit talented students which spawns both economic growth and development as people choose to establish businesses in these locations. These universities also encounter issues such as a declining public tax base and globalization, as other institutions abroad grow

and become competition. This study asked how big of an impact research universities and educational attainment have on more isolated rural communities and whether human capital can account for progressive economic results. These issues were more impactful when the college is located in smaller, rural communities. For one, they lack financial resources to attract potential students and even faculty members, which can also impact new businesses choosing these areas. Two, research universities can greatly impact the economy, especially in a more isolated location. Three, the economic growth rate in rural areas is less than that of metropolitan areas, 0.4% as compared to 1.1%, respectively (p. 168). These particular rural areas also experienced an increase in unemployment rates, in 2008 it was 5.3% and it rose in 2009 to 9.2%. These numbers show how necessary it is for rural communities to enhance their attractiveness to outsiders in order to develop economically.

Today's economy is also more knowledge-based as opposed to labor-based. Previous research cited by Pink-Harper (2015) revealed that "universities are one of the contributing factors to successful local economic development because they provide skilled workers for a community" (p. 168). The study tested whether human capital and institutional intellectual capital were predictors of economic growth. The data in this investigation was pulled from the U.S. Department of Commerce, U.S. Census Bureau, and American Fact Finder. The demographics were race and ethnicity, median household income, population, region, and economic distress indicators such as poverty rate, market per capita income, and unemployment rate. The findings showed that "the economic stability of the community and the presence of a research university are more important predictors in explaining the economic growth trends of a community" (p. 176). Human capital was found to not be as important of a

factor in economic growth. When combined, both human capital and intellectual capital lead to positive economic growth and development in rural communities. The researcher noted that more studies in this area do need to be conducted in order to come to complete conclusions and understand trends about economic growth in rural areas as it relates to research universities.

Schmitt-Wilson et al. (2018) examined the “patterns of educational attainment” (p. 1) among students in rural areas. In previous studies on educational attainment among rural students, 30% had even earned a bachelor's degree, which is low when compared to 40% of suburban students and 43% of urban students. (Byun, Meece, & Irvin, 2012, as cited in Schmitt-Wilson et al., date). This is crucial information as the U.S. educational system seeks to make access to higher education more attainable and equitable for all students. The researchers asked two questions to guide their analysis of the data. One, “among rural students, does education expected for occupation predict educational attainment in adulthood?” Two, “are there differences in educational attainment among rural students according to region of residence in the United States?” (p. 3).

Data was collected from the 2002 Educational Longitudinal Study, that focused on current sequences of rural educational achievement as well as those in two year and four year degree attainment. This study followed 10th graders from a nationally representative sample. These students were initially surveyed in 2002; follow-up surveys were administered in 2004 (when the students were high school seniors), in 2006 (two years after graduation), and again in 2012. Transcript data from high schools provided academic achievement information.

Schmitt-Wilson et al. (2018) examined their data in five parts: region of residence, family socioeconomic background (SES), family composition, parental expectations, parent discussion, and academic achievement. At the time of this study, almost nine million students in the United States were considered rural. The researchers found that 44% of rural students sampled reported educational attainment of a high school degree and 21% reported to have continued on to receive an associate degree or certificate. Beyond that, 28% of the respondents had earned a bachelor's degree, and seven percent had earned a master's degree or higher.

The findings indicated there would be benefits to shifting the language used to discuss educational attainment. In previous studies, anything less than a bachelor's degree was seen as inferior in professional spaces. If a more inclusive definition of EA that recognized the benefits of continuing education beyond high school in any capacity, as in training for the trades, Schmitt-Wilson et al. (2018) noted that it would be more inclusive and supportive to rural students. It could provide more meaningful support to any student who wanted to remain in a rural area yet continue their education. This study serves as a firm reminder that a "one-size-fits-all" (p. 11) definition of educational attainment is not appropriate for all students.

In a 2012 study exploring why some students enroll in highly selective colleges, Klugman examined data from the 2002 Educational Longitudinal Study (ELS), a nationally representative probability sample of United States' tenth graders which used a survey commissioned by the National Center for Education Statistics. The sample included 9,880 cases from 710 different schools; the school sample sizes ranged from less than 10 to 40. Follow-up surveys were conducted in 2004 and 2006. The study focused on how school programmatic and non-programmatic school resources affected students' post-secondary choices and mediated the

impact of family socioeconomic status (SES). Klugman (2012) noted that “the effect of family SES on college destinations is partially mediated by high school resources” (p. 812). Typically, high-SES families direct their resources at their children meaning that family SES will have some impact on students' postsecondary destinations but that high school resources at least partially mediate family SES.

Klugman (2012) conducted the study in three steps. First, differences in high school resources were evaluated by “regressing each of the resources on the student's family SES” (p. 812). Next, while controlling for tenth grade test scores, track placement, school size, and student/parental educational expectations, two things were estimated: 1) the influence of family SES on students’ marks of distinction and 2) the extent to which school resources intervene the impact of family SES on the marks of distinction. Finally, in order to fully investigate students’ postsecondary destinations, the study used a multinomial logistic regression. Klugman’s (2012) study theorized that school resources play a more significant role in the college selection process, regardless of the SES of the student’s family. Unlike studies before, this one considered a school’s programmatic resource as a predictor of college destinations, used more recent data, and is the only study to examine how high school resources are the “mediators between family background and postsecondary destinations” (p. 805).

Students with high SES did, in fact, attend more advantaged high schools with more options for programmatic resources, like more and a variety of AP and IB subjects, greater extracurricular offerings, and more teachers with graduate degrees. Family SES also correlated positively with attending (Catholic or non-Catholic) private schools over public ones and was

negatively associated with attending a rural high school and positively associated with attending a suburban high school (p. 814). Previous studies have greatly underestimated the impact of programmatic school resources. This study showed that it does make a difference in enrollment in more selective colleges. This research broke new ground, as it examined both school resources and family SES, instead of studying them as two separate and unrelated variables.

Klugman (2012) found that without a wider range of class options, rural and urban students were less prepared for the high level of work required to be successful in college. In these schools, financial inequality caused an imbalance in social and instructional resources, such as Advanced Placement courses. Without the opportunity for higher-level learning, students were at a disadvantage when it came to the college admission process. Rural and urban students were less likely to have access to these resources and in turn, influenced their ability to participate in post-secondary education. A lack of variety when it came to classes also impacted college preparation, as students were less prepared for college level work.

In a 2019 study, Li examined "how family factors contribute to the rural/non-rural differences in college expectations in the early 2010s" (p. 1). Li (2019) sought to add to prior studies that rural students in the early 2010s were as likely to expect a four-year college education though their college expectations were less than that of their suburban counterparts. Li noted that the rural and non-rural "differences in college expectations are more complex than previously thought" (p. 1). Data collected by the National Center for Educational Statistics from the 2009 High School Longitudinal Study (HSLS:09), provided a nationally representative

sample of data of more than 23,000 ninth graders from 944 high schools in the United States. Follow up data was collected in 2012 when the majority of the students were in 11th grade.

The data provided involved information regarding each student, their parents, classmates, counselors, administrators, and teachers. HSLS:09 used different questionnaires answered by the student, teacher, school administrator, counselor, and parents to compile this data. The data also included the location of the high schools which allowed for the comparisons of rural and non-rural communities. As this particular study was limited to students who (along with their parents) responded to the questionnaire which reduced the sample size to 6,371.

To begin, Li (2019) used cross-tabulations and mean tests to describe the rural and urban differences in both family background and college expectations. Next, in order to analyze the rural disadvantage and advantage narrative, the researcher used a series of six logistic regression models. Last, to analyze the effects of family factors on rural and nonrural students, interaction terms were built with each high school location and family factor with regard to testing the interactional hypothesis. In all, 70.4% of exclusively rural students, 72.54% of urban students, and 76.24% of suburban students expected a four year or beyond college education. Although not as statistically significant, more nonrural students had higher educational expectations. As it pertained to family income, urban students reportedly had more families living in poverty as compared to rural students. Regarding levels of parental education, rural students were less likely to have college-educated parents as compared to suburban students. Finally, rural parents were less likely to expect their student to attend a four-year college. In fact, only 75.86% of rural parents carried that expectation, while 82.14% of urban parents and

82.81% of suburban parents reported this expectation. This created a lower social capital for rural students.

In 2012, Byun et al. conducted a study in order to explore how "various factors predicted bachelor's degree attainment among rural youth attending a four-year institution" (p. 463). They questioned whether rural students attending four-year colleges differed in their pre-college and college experiences and background traits when compared to their metropolitan counterparts. They sought to uncover which traits and experiences mattered for bachelor degree attainment among rural students and which predictors of degree completion varied when compared to suburban and urban students.

Using data from the 1998-2000 National Educational Longitudinal Study (NELS) and the Postsecondary Education Transcript Study (PETS) that was collected as a part of NELS, the National Center for Education Statistics (NCES) drew random samples of about 25 eighth graders from 1,000 randomly selected schools in the United States in 1988. NELS followed these students through their high school career in 1990 and 1992 and then again in 1994 and 2000. The sample consisted of about 12,100 students.

Overall, 70% of rural students who attended four-year colleges earned their degree by 2000, which represented the same completion rate as urban and suburban students (68%). Of this 70%, the rural students were less likely to have parents who completed a bachelor's degree or higher (37%) as compared to suburban students (50%) and urban students (50%). Rural families also were more likely to have a lower annual income compared to suburban and urban students, whereas, 38% of rural families, 54% of suburban families, and 49% of urban families made $50,000 or more per year. Rural students performed just as well as their suburban

counterparts on Grade 12 standardized tests, but the curriculum in rural schools was not as intense as suburban or urban schools.

As for college experience, rural students were more likely to attend a public college and less likely to enroll in a college with a lower acceptance rate, also known as a selective college. Rural students were also more likely to attend full-time. In terms of GPA, participation in intramural athletics, delay of entry, and partaking in extracurricular activities such as student government and Greek life, there were no significant rural-metro differences. Rural students did face challenges that were unique to their situation. Byun et. al (2012) found that “rural adolescents who attended a four-year institution were disproportionately more likely to be first-generation college students and to come from lower-income families than their metro counterparts. In addition, rural students were more likely to enter college with a less rigorous academic curricular background than their metro counterparts'' (p. 479).

In a 2018 qualitative study, Stone et al. sought to understand how students who left their rural communities in pursuit of furthering their education formed their personal values and how those values impacted their higher education choices. This case study shared the stories of these rural college-bound seniors in order to create better support systems within their home communities and the institutions they attend. Stone et al. (2018) desired to fill the gaps in literature left by previous studies by asking the following two research questions: “How do recent high school graduates who grow up in a rural context and intend to leave their communities to pursue higher education form their values system?” and “What values are common among recent high school graduates who choose to leave their rural communities to pursue higher education?” (p.15).

The criteria for individuals to participate in the study was threefold: be a recent high school graduate who had been admitted full-time to a four-year college but not yet attended said institution for a full semester, be from a rural community, and intend on moving away from their rural community upon their attendance at college. The rural communities were defined by the student's self-identification and by NCES (National Center for Education Statistics) standards. The concept of values was taken from the International Encyclopedia of Social Sciences, meaning "concepts of the desirable, influencing selective behavior" (Sills, 1968, p. 28, as cited by Stone et al., 2018, p. 16). In all, there were seven participants from diverse backgrounds and rural communities in Texas.

Documentation, interviews, physical artifacts, and archival records were gathered from the participants. The documents included subject-provided physical artifacts that demonstrated how their values were manifested in their daily lives and essays they had written in high school and for scholarship or college applications. They also participated in two semi-structured interviews. The first concentrated on the values each student found to be the most important, why those were the most impactful, and how those values are reflected in their own lives. The second interview was geared towards different ideologies or values and how students may have been exposed to beliefs different than their own and whether these interactions may have caused concern or excitement upon encountering. Although the students were diverse in the stories they shared and came from unique rural communities, three themes appeared in each of the students' stories: faith, family, and career, with a heavy focus on faith and family. Since Christianity played such a significant role in shaping the values of students, it can be considered a regional influence due to the location of the students. For most of the students, these values

were linked. When it came to their focus on careers, they valued education but saw it as a pathway to a career they were passionately pursuing, which was often shown to be common about most students who are continuing their education, not just rural students.

Even though the percentage of rural students enrolling in postsecondary education was on the rise, it was lower than that of urban and suburban counterparts (NCES, 2015). With a graduation rate of just 80 percent, Stone et al. (2018) noted that "students in rural communities represent a huge opportunity for colleges and universities to meet enrollment challenges" (p. 21). Understanding the values of these rural students and how they are formed in these communities can help stakeholders such as admissions officers and those working in higher education create "more effective strategies for recruiting these students and supporting them once they arrive on campus" (p. 22).

In 2018, Koricich et al. examined the college choice and attendance of rural students in order to modernize past studies of the same nature. They also sought to draw connections between college choice and socioeconomic status impact both rural and nonrural youth. Before conducting their own research, they found that "although extensive research has been done on the educational access of many under-represented groups, scholarship on postsecondary access and choice for rural residents remains somewhat sparse" (p. 282). This study considered their audience of researchers, administrators, and possibly policymakers, in the hopes of improving "postsecondary access and choice pathways" (p. 282) to rural youth across the country. Rural students tend to face challenges based on their educational attainment. Historically, students from these areas tend to attend postsecondary institutions at a lower rate as compared to their metropolitan peers. Even though most think of rural areas as only a small

percentage of the United States, as much as 60 million people live in rural areas make it a significant topic to explore. Other areas of public policy, such as health care and economic development have made attempts to provide better care and opportunities to rural citizens, it is the availability of education that still has yet to improve significantly and continue to be a challenge.

"Of all the domains in which rural areas struggle, educational attainment may be the most critical due to its connection to other important social outcomes such as employment, income, and civic participation" (Hillygus, 2005, as cited in Koricich et al., 2018, p. 258). Education is often the foundation for professional success and the lack of educational attainment can be a contributing aspect to the persistent economic and social struggles in rural areas. In order to overcome these issues, there needs to be a better range of postsecondary opportunities provided to rural residents. These opportunities will allow the residents to realize their economic potential at the local level. The study also showed that when compared to their nonrural counterparts, rural students did face inequalities when it came to postsecondary attendance and even have lowered their chances of attending highly selective institutions. There are significant disparities between rural and nonrural students when it comes to attending college. Even though the goal of the present study was to update previous studies on rural college attendance patterns, it showed the importance of improving the educational opportunities for rural students because it cannot be understated how important rural areas are when it comes to the future of the economy in the United States as it is the hub of agriculture.

In a 2019 study, Goldman investigated elements that have shown to impede or aid rural students in their access to higher education. Goldman explained that “access has been an ongoing issue for rural students” (p. 16) and interviewed students about their postsecondary journeys. Even though the number of students from rural areas who attend college is on the rise, there is not a lot of information regarding their experiences. So, this research was undertaken to add to the lack of existing research and provide unique perspectives on the postsecondary experience.

Goldman wanted to analyze “rural students’ access and barriers to a four-year college and the cultural values (i.e., family background, rural culture, and rural school preparation) that affected college access and completion” (p. 17). The students interviewed used digital three-to-five minute stories that included audio, video, and pictures to explain their respective pathways to college. These stories gave the participants an opportunity to not only explain but also fully describe their identities and organize their own lives. In all, 49 students submitted digital stories fourteen of whom were categorized as rural or remote in conjunction with the U.S. Department of Education National Center for Education Statistics definition and therefore included  study. All but two of the participants considered themselves to have financial barriers when it came to continuing their education. Eight identified as “American Indian,” five as first generation, one as veteran, and six as “non-traditional.” All of these components, students said, impacted their postsecondary journeys.

Finances were the most common barrier when it came to continuing their education. Students most frequently noted their parents’ financial situation, the possible burden of debt, the balance of work and school, and their reliance on financial aid and scholarships. Those who

did mention academics acknowledged that they were not as primed for college-level work, with one saying that “college is way harder than high school” (p. 20). Leaving their communities was also difficult for the participants. Rural communities tend to have strong values with a strong sense of community, family, religion, a distrust of outsiders, with an emphasis on common sense over intellectual ability. College may be the opportunity some students see as a way out of their rural life but it also means that these students have to adapt and assimilate to the more dominant culture where they attend and often compare themselves to their nonrural counterparts. One student was very aware of the differences in her secondary experience, stating “I’m from a [rural] school. It’s a very small school. I didn’t have a lot of opportunities that others had from bigger schools” (p. 21).

Other themes that were mentioned by many participants as a factor in their experiences were family support, self-efficacy, and on-campus support. The students saw their families as a support system when it came to continuing their education and that completing their education was a way to give back to their family. Six of the participants, although considering their family to be an aid to their education, also explained that they had issues attending school due to family challenges (e.g., death in the family,  taking care of siblings). Students had to rely on themselves and their own tenacity in order to attend college. Their self-efficacy helped them overcome doubts from outsiders and advocate for themselves and their respective education. Participants also relied on support from their colleges; each indicated that the faculty and administration at their institution were helpful. From support networks geared toward their specific situation, like the Native American Center, or academic help or office hours, these students took advantage of the support in order to be successful regardless of their situation.

In a 2020 article, McCauley stressed the importance of students from rural communities who need particular support on college campuses as these students face unique challenges their more suburban counterparts do not understand. McCauley told the story of one student with whom she interacted who was the first in his family to decide to attend a four-year university instead of going to a trade school. After just one year, he ended up leaving the college and was pulled back to his rural area. As a result, McCauley wanted other campus educators to understand the issues these students face and be a better support system as they transition from rural life to campus life.

The US Census Bureau, as of 2019, defined everything not urban as rural. Specifically, anything not considered an urban area (50,000 or more) or an urban cluster (2,500-50,000) is rural. According to the National Center for Education Statistics (NCES) and U.S. Department of Agriculture (USDA) rural students are more likely to graduate from high school as compared to both urban and suburban students, but they are less likely to attend an institution of higher education.

McCauley also noted recent publications that tell of principals and teachers that work other positions within the school due to the lack of personnel. Many rural districts do not have the budget or population to have more than one guidance counselor, who may have to take on other duties. Some rural students do not have the same support from staff that students at bigger, more suburban and urban schools receive. McCauley surmised that “academic preparation, family background, socioeconomic status -- influence rural college students’ success in completing a postsecondary degree” (p. 6). The number of rural residents who obtain a bachelor degree is much lower than those in urban and suburban areas and the growth of

those earning those degrees is also lower. The number of urban adults who earned a bachelor's degree was 33%, compared to 19% of rural adults.

There are supports that campuses across the country can use to help these rural students complete their degrees. Students from rural areas struggle to transition to the college environment. Their foundational identities are shaken as they have changed to while away from their hometowns and find that they are not only different people but that there is a lack of job opportunities back home. Staff can become the "campus champions'' for these students by supporting their goals and learning by creating content that builds a bridge between their rural life and campus life, these educators can focus on retention. These students need guidance and cultural navigators as they go through a period of transition and adjust. These do not have to be new programs but add-ons to an already existing curriculum.

In a 2006 study, Burr suggested that the higher educational struggles of rural America cannot be overcome by community colleges. These institutions tend to not be comprehensive enough to meet the particular needs of these areas. In order to grow economically, rural areas need more four-year degree options. Education is seen as the pathway to success as most jobs, even entry level, require some sort of training beyond a high school diploma. Statistics show that rural areas tend to lack higher education. With an agricultural-based economy, the make-up of rural areas tend to be "poor, underemployed, undereducated" (p. 71). The researcher asked under what conditions these communities would be able to attract and secure employment in order to grow their respective populations and therefore their local economies.

In the past, community colleges were seen as the solution to rural America's economic problems. These schools offered lower-level certificates, diplomas, and associate degrees. The

name itself, community college, was chosen as it was typically populated with students from within the area. It also was a much cheaper solution to traditional four-year public and private universities. It was and remains an attractive option for lower-income and those not yet academically prepared for a four-year postsecondary experience. Significant changes in directions and mission can be made in order to address this and incorporate four-year bachelor degrees. With this expansion, students will not have to choose between an associates degree or certificate or nothing, they will have the options beyond what is usually offered. States such as Utah and Nevada have gone away from the typical community college and set a precedent, now referring to them as "state college." These programs can be more appealing to rural students and give rural America the chance to grow economically with more education.

**Special Education**

Chandler (2018) analyzed learning disability identification in rural areas with a high poverty rate, as "socioeconomic status serves as the strongest single indicator of students' educational outcomes" (p. 1). According to the author, rural areas are more likely to have socio-economic struggles and are impacted by lack of instruct infrastructure, low population, less resources, low levels of educational advancement, and the dependence on one employment sector. In general, students who attend high-poverty schools perform much lower on reading and math standardized tests when compared to students from low poverty areas. Examining qualitative data in one poverty-stricken district, this study used semi structured interviews with teachers to find these answers. There were 11 participants from one district that was selected due to the high rate of students receiving free and reduced lunch. The district chosen for the study is located in a rural area with a population of 1410. Elementary middle and high school all

share the same campus with 337 students in elementary, 111 students in middle school, and 160 at the high school. The outward appearance of a school would not indicate to the uninformed I that it is in fact a high-poverty school. Chandler (2018) asked two questions: "What do teachers in poor rural districts believe about poverty?" and "How do these assumptions impact teachers' decision on LD eligibility?" (p. 2).

Of the 11 teachers interviewed, five were in general education and six taught in special education. Of these, seven teachers were at the elementary level and four were at the secondary level. The questions were open-ended, encouraging teachers to expand upon their answers. After the interviews were transcribed and analyzed six themes emerged. The first three themes highlighted teachers assumptions, the fourth illuminated teachers' backgrounds, and the fifth and sixth pertained to pre-referral intervention and the discrepancy model.

All 11 teachers made some comments along the lines that hard work overcomes poverty and that when students in poverty fail they simply are not working hard enough. This assumption does not fully realize the many other factors that would make hard work and school a fruitless endeavor for many students. They did not fully question the conditions in which their students lived or the larger social implications.

Seven out of eleven teachers mentioned schools having the ability to "fix the poverty problem" (p. 4). Most teachers believe that they themselves play a large role in this. They take responsibility for student learning and do not question the larger socio-economic system that impacts their situation. If teachers were able to acknowledge the influence of socioeconomic structure, they would then advocate for them beyond the educational level. They could also

provide students with the skills and knowledge to advocate for themselves on the economic level.

As for the fourth theme, 10 of the 11 teachers came from middle-class backgrounds and all 11 reported some form of middle-class values or beliefs. This showed the disparity between the backgrounds of staff and the backgrounds of students that they taught. This could lead to a lack of insight on the part of the teachers. This shortfall in understanding means that these teachers might not be able to adequately acknowledge how poverty impacts life opportunities and therefore ”hold them accountable for their own successes and failures rather than providing them with the support and advocacy that they need” (p. 5).

Chandler (2018) found that in the pre-referral stage, teachers just had to show that they tried minimal interventions before referring them to special education. This shows that teachers do not want to delay specialized services and get students help at the earliest point possible. I am that teachers in this setting do not expect struggling students to succeed in a general education classroom. It could also show that high poverty areas do not see the value in implementing more intensive interventions. Finally, this article noted that the IQ-achievement discrepancy model is still in place. This creates a discrepancy between what the teachers' understanding of LD identification process and what is mandated by law.

This article recommended five possible actions that could improve LD identification in rural schools, not just this specific district. First, post-secondary institutions and administrators of school districts should provide materials and activities to current and potential educators that defy previous stereotypes of people living in poverty. Next, when talking about school improvement, lawmakers should consider socio-economic reform. The third action is that

administrators in schools should increase their support when it comes to the effort teachers are putting in to meet the needs of all students. The fourth action is that “School administrators should facilitate the implementation of assessment methods that are designed so that students receive the assistance they need as early as possible” (p. 7). Finally, educational researchers should continue to study issues in rural areas concerning poverty.

In a 2017 study, Hawley et al. investigated the challenges of defining what rural means, especially when it comes to special education. The implications for the specific definition of rural can impact funding, resource allocation, and even research findings. There have been many definitions used to define rural depending on the discipline. Each definition tends to have positives and negatives. Having varied definitions of rural can create difficulties when it comes to comparing research. These inconsistencies can also mean problems as it pertains to interpreting rural research.

Hawley et al. (2017) found that there were very few articles that “included standardized definitions of rural” (p. 3) in special education literature. The purpose of this paper was to stress how important it is to have a consistent definition of rural concerning the term special education. They recommended that rather than using one single definition of rural, that future researchers instead include more detail of their locations in order to provide more sufficient and specific information. For, without a solid definition and qualifying details, the person reading the article would be more likely to make assumptions and therefore misinterpret the concept of rurality.

There is not one correct definition of rural as it is a “multifaceted construct that does not afford a single categorization” (p. 9). So, when deciding on which definition fits best, two

questions must be considered: “What community characteristics are important in my study’s conceptualization of rurality?” and “What level of classification is most appropriate for my study’s objectives?” (p. 5). Having a specified definition of rural is crucial for rural special education research as well as policy. Rather than choose one single definition, it is imperative that there are details so readers can understand the context and be better able to draw conclusions based on these key facts. Hawley et al. (2017), referenced the multidimensional approach by Brown and Schafft (2011) that includes, “population and settlement structure and landscape, economy, institutions, and socio-cultural” information (p. 9). It is recommended that researchers who may describe a few or even one rural setting focus on the most notable and important characteristics of these locations using the approach outlined by Brown and Schafft (2011). For those conducting research involving a larger number of locations, it can be hard to include full descriptions for each area. Then, it would be best to instead choose an already established, standardized rural classification. This can provide the consistency required for drawing comparisons. If researchers also provide additional details beyond the established definition, that will only further help readers make comparisons. It is important that researchers and readers alike have a consistent understanding of the rural context. The lack of a clear understanding of what rural is impedes on the advancement of research regarding rural areas as it is hard to draw comparisons with already existing literature with inconsistent definitions. If researchers were to provide more detail regarding rural context, it would significantly reduce the ambiguity of the term rural and positively impact resource allocation, researching findings, grant funding, and policy decisions.

In 2019, Jones Ault et al. interviewed and surveyed the original members of the American Council for Rural Special Education (ACRES) in order to document the history and evolution of the organization. The mission of ACRES is "to provide leadership and support that will enhance services for individuals with exceptional needs, their families, for the professionals who work with them, and for the rural communities in which they live and work" (https://www.acres-sped.org/about, as cited in Jones Ault, 2019). With over a 37-year history at the time of the study, the data reflected the impact ACRES has made and the voice they provided for rural special education. The guiding questions for this research were as follows: 1) What was the purpose for the founding of ACRES?; 2) How has ACRES evolved over time?; 3) Was the actualization of the original mission?; 4) What is the impact of the organization? The researchers initially surveyed ten of the early members in 2014 and then conducted follow-up interviews in 2017. A high level of the survey respondents had a long history with the organization; most had been active since the late 1980s and early 1990s. As for evolution and purpose, one interviewee noted that the organization was founded with the purpose of addressing the needs of rural special education. The majority of the rest of the interviewees reported that it was founded in response to the Office of Special Education Programs (OSEP) "personnel preparation grant acquired" (p. 70) by a faculty member at Murray State University in Kentucky, Dr. Doris Helge. The grant focused on preparing teachers for rural special education and the problems in rural special education faced.

The first ACRES conference was held in 1981 at Murray State; Dr. Helge acted as the executive director. Dr. Helge recruited other members of the educational rural teacher preparation grant programs to join. The ensuing conferences hosted notable members from the

Office of Special Education and Rehabilitative Services of the U.S. Department of Education. Respondents from the survey noted five reasons that ACRES was founded:

> (a) to provide a clearinghouse for the discussion of research and practice related to rural special education; (b) to provide a voice in congressional committees and in various legislatures, in support of children and their families in rural areas; (c) to bring national attention to rural special education through a professional publication (RSEQ) and through ACRES national conferences; (d) to promote the preparation of quality teachers, ready to provide needed services and to work with individuals with disabilities in rural and remote environments; and (e) to address a gap in the research literature and focus on needs of individuals with disabilities who live in rural and remote areas. (p. 71)

The interviewees felt that the founding of ACRES was the first real organization that had a central focus on the unique needs of rural special education and as a way to give a voice for those in rural special education and expressed that ACRES "met a need that was significant at the time" (p. 71). ACRES provided support for individuals either preparing to or preparing others to teach in rural special education and created a space to solve issues regarding recruitment and retention.

ACRES had impact on legislation and federal policy, instructional, and innovative educational practices, as well as preparing teachers. Respondents of the survey and interviews explained that members made efforts at the state level by contacting their own congressional delegates to raise awareness. They also lobbied for funding in order to train and support teachers in their respective areas. On the federal level, "ACRES members have continued to communicate with their legislators and raised the level of awareness for rural special education

issues" (p. 73). Members of ACRES used three steps to best effect and innovative instructional practices. First, they disseminated the information regarding new practices. Next, they took advantage of the trickle-down effect by getting faculty in higher education to participate in productive teaching strategies that their students can use in future practice. Finally, they worked to achieve generally better preparation of teachers going into rural special education. Interviewees also mentioned how ACRES impacted teacher preparation by providing the necessary resources to be successful and even offering opportunities to further their education with stipends for advanced degrees.

In a 2018 study, Rude and Miller analyzed challenges with rural special education policy and identified possible promising solutions for these issues. They made recommendations for policymakers and implementers in order to improve the programs for special education in rural areas. In sparsely populated communities, providing the required free and appropriate education to students with varying abilities can be difficult. According to the researchers, it is the development of evidence-based practices and policies derived from research that can prove the best education possible to all students. They claimed it is important to note the positives of rural education: "smaller settings, greater personal attention, clearly articulated identity, safe environments, and sense of community" (p. 21). If these attributes are understood, they can be used in partnership with state and federal policy in order to be as effective as possible.

One federal policy that impacted rural education was the No Child Left Behind (NCLB) Act, which was replaced with Every Student Succeeds Act (ESSA) in December 2015. Even though several aspects of NCLB were maintained by ESSA, such as statewide assessments, other elements were revised like school ratings based solely on test scores. New factors were also

added including college and career readiness standards. Certain aspects of ESSA that work in tandem with the Rural Education Achievement Program (REAP). In five different categories, ESSA references rural schools in regard to federal policy:

> (a) involvement provisions to ensure rural stakeholder participation, (b) diversity provisions designed to encourage equitable allocations among varied geographic designations, (c) inclusion of rural as a priority in defining need, (d) set-aside provisions to ensure proportional distribution of resources to rural schools, and (e) waiver/specialized consideration provisions to ensure that rural school applications are competitive with urban schools. (p. 21)

These categories ensure that rural districts receive the same amount of federal resources as other schools. ESSA sets aside 25% of Education Innovation and Research grants specifically for rural schools and 15% of their Community Support for School Success projects are rewards to rural communities. This is one federal policy that makes sure that rural areas, although more sparsely populated, still see the same funding recognition as more urban districts.

Rude and Miller (2018) recommended improving alliances with institutions of higher education, clarifying the government's role, addressing diversity, achieving comprehensive recruitment programs, elevating the profession of education, promoting different educator paths, ensuring salaries and benefits, and providing incentives. They found that partnerships between colleges and universities and rural communities can be made in order to better prepare, and then retain teachers. Rural schools can better understand how the government

plays a role in rural education by securing resources through federal programs and waivers typically aimed at communities with larger populations.

The state and national policies, although not always geared toward rural education, do not completely exclude it. What can be done is to use this policy to the advantage of these areas to improve an already challenging educational landscape and promote the changes to state and federal government. As the population of students becomes more diverse, the policy toward rural education must also be culturally responsive and increasingly diverse in recruiting talent for rural areas. Policy could not only elevate the profession in general, but also provide an uplifting and positive view of education. This positive view could be reflected in a competitive initial salary and comprehensive benefits when compared to nonrural areas. Finally, policy could invest in incentives and support for professional development. These programs and activities can extend existing skill sets or provide new skills that will improve the rural classrooms overall.

## Gifted and Talented Education

There are different hurdles that impact not just the general population of students but impact the underserved students even more. Part of this underserved population are the section of students deemed gifted/talented. Siegle et al. (2016) stated, “gifted and talented programs and services aim to promote, enhance, and extend the talents and abilities of students. Prior to such interventions, students’ potential talents and abilities must be recognized” (pp. 103-104). Lumping all of these students into a single category fails to note their unique abilities and the diversity among these students. A variety of considerations such as, “varied perspectives, curricula, models, service delivery systems, identification structures,

and needs of gifted children" (Siegle et al., 2016, p. 104) need to be weighed. Students from rural areas, along with students of color and English language learners, seem to have the most barriers when it comes to receiving adequate gifted education. Also, these students are often under identified. In fact, Black, ELLs, and students who qualified for free or reduced lunch were most likely to be under identified. As well, white students were identified as gifted 12 times more often than students of color.

During the 2010-2011 school year, more than 20% of the population of public school students attended rural schools. Gifted students tended to be underserved due to "lack of challenge and lack of teacher preparation" (Siegle et al., 2016, p. 107) in order to foster an environment for talent to surface. It is in this setting that barriers make it nearly impossible for gifted talent to materialize as there are lowered expectations that eventually lead to inescapable issues.

Rural students found their classrooms to be enjoyable and positive as it pertained to the small school environment where they received more personal attention. These students did note that there were fewer opportunities to be challenged which is directly related to insufficient resources allocated to rural schools. This can limit the opportunity for students to take advanced or higher-level classes and reduce the variety of classes they are able to take.

According to Siegle et al. (2016), if rural schools are going to improve gifted programming, it is important to form relationships with the community and parents. Using their available resources will create mentorship opportunities and the possibility of classroom enrichment. With geographical constraints, rural schools must use what they have available to them. Moreover, "A comprehensive, inclusive system for identifying gifted students from all

populations requires a holistic approach of broadened identification" (Siegle et al., 2016, p. 122).

Despite the fact one quarter of students in the United States attend rural schools, these children are often overlooked when it comes to creating educational policy, even though the unavoidable poverty and insufficient financial resources of rural schools in America are well documented. These factors also heavily affect the gifted students in this population. Azano et al. (2014) noted that there is limited knowledge on the experiences of these gifted students and "even less about the teachers serving this population" (p. 88). Their qualitative study set out to "investigate the rural-specific context to identify factors associated with rural teachers' instructional decisions to deliver gifted curriculum with fidelity" (p. 88) by interviewing gifted teachers in rural districts.

The challenges for these teachers tend to be rural-specific, and the typically understood limited resources due to funding inadequacies and the overall one-of-a-kind experience of rural education have been key influences on teaching in these communities. These present hurdles for any teacher in a rural district, but they are especially difficult on teachers of gifted students, as they may face additional obstacles as their jobs may be seen as an extravagance, or not as crucial for student success for struggling districts. In their findings, Azano et al. (2014) found three themes in teaching gifted programs in rural districts: "gifted programming in rural school districts, limited resources, and specific time constraints" (p. 94).

The first impediment was the nature of programming options for these rural teachers. These can often include the number of students who qualify services and the identification process, which impacts the age or grade diversity of the gifted classroom. Teachers noted that

mixed grade classrooms created the obvious problem of mixed abilities. One teacher explained that when asked to provide gifted services to 77 students in two different schools, there were students from across grades 1-5. This spawned problems when trying to adhere to the curriculum, as not all students were at the same ability level, even though all were identified as gifted. These complex teaching loads are unique to rural schools as there are not enough resources to provide single-grade or level-specific gifted programs.

This is not the only way limited funding impacts gifted programs. Teachers in this study reported that insufficient funding influences staffing, professional support, and access to technology. The small number of gifted teachers means that teachers are more likely to feel professionally isolated and exhausted as they may be the only teacher in their district in such a position. This often meant that their professional choices were questioned by other teachers or administrators; with no team support or other voices to back them up, they acted as the sole advocate for their students. General education classroom teachers also often expressed negativity towards gifted students being pulled from regular classroom instruction, even though it was shown to be for the student's benefit. This lack of professional support also proved to influence how districts felt about gifted education in general. Many colleagues of gifted teachers found their programs to be indulgent or unnecessary.

Many teachers noted that limited resources meant that their students did not have sufficient access to technology or materials. When conducting a research project, one teacher explained that due to lack of geographic and digital connectivity, their library simply did not have the resources necessary to complete the assignment properly. The opportunities for field trips were also extremely limited as the distance to educationally and culturally relevant

locations were too far and/or too expensive to travel to. Additionally, teachers noted that students who came from lower socioeconomic status homes and parents often struggled to provide proper resources for regular classroom learning, let alone gifted learning.

The time constraints on these teachers were especially challenging when trying to provide adequate instruction to their students. These teachers frequently have to travel between multiple schools and have a larger caseload which are both factors in reducing instructional time. Teachers then had the decision on what concepts or lessons to cut due to the time constraints and the time between the lessons threatened the fluidity of the lessons all together. Much of the focus tended to be on students who struggled in school rather than those who excelled academically. With the limited resources available, professional isolation, and time constraints, gifted education teachers faced numerous challenges when trying to administer an adequate and complete education to their students.

In education research, the definition of rural is inconsistent. Kettler et al. (2016) reviewed published research from between 2005-2015 to understand the varied ways that rural was defined. Most often, the National Center for Educational Statistics (NCES) locale code is used to characterize a district as rural, but these codes do not fully understand what rural means. NCES breaks rural into three sub-categories: fringe, distant, and remote. Districts noted as fringe tend to be more similar to schools in the suburbs demographically. The authors contended that improvements could be made to rural education research if there was a consistent interpretation of rurality across the board. The researchers recommended that along with the NCES codes a school size filter be used to accomplish this.

What also hinders the development of a consistent definition is the differences among rural schools. Districts can “vary by remoteness, school and district size, poverty rates, minority enrollment, and growth or decline in enrollment” (p. 248). When one imagines rural, they often picture an agrarian setting; one example of this is the town of Walnut Springs, Texas. The town has a population of 755 and an enrollment of 199 students. Their district is a singular Pre-K through 12th grade with an average of 14 students per grade. Twenty-seven students are noted as gifted and talented. Frisco, Texas is 100 miles away and has a population of over 120,000 and an enrollment of 39,903 students in nine high schools, 15 middle schools, and 38 elementary schools. The students identified as gifted and talented number 2,907. Both of these districts are classified as rural by the NCES. This is a large discrepancy and is not the only case. Location-based research is complex as areas can fluctuate in population faster than can be captured in the ten-year census classification systems used by the NCES for data.

There is also no single definition for rural education research. For some, rural is a subjective concept. Kettler et al. (2016) stated, “People may not be able to define rural, but they claim to know rural when they see it” (p. 247). Rural education organizations like the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the Rural School and Community Trust (RSCT) associate rurality with these six qualitative characteristics:

1. Education takes place at a distance from large urban areas.
2. Education takes place in an environment with historical roots in an agrarian culture.
3. Education has access to fewer resources such as highly qualified teachers, high-quality buildings, and high-quality professional development and curricula.

4. Education takes place in small schools.
5. Education cooperates with and tries to meet the needs of the community and local economy.
6. Education is place-based, or rooted in the lives of community families. (pp. 247-248)

These six characteristics are usually coupled with other anecdotal evidence such as rural places "are inhabited by people and are not just spaces mapped for descriptive convenience" (Roberts & Green, 2013 as cited in Kettler et al. 2016) and rural people are just different than people in urban places. Kettler et al. found that around one third of studies "since 2005 fail to validate the rurality of the schools in the study" (p. 261). Understanding the context in which the research is conducted is key in making progress towards bettering the education for students in rural education.

In 2020, Lewis and Boswell stressed the importance of understanding the culture of rural areas and the challenges in rural education, specifically rural gifted education as half of the world's population lives in rural areas but policy and research often overlooks students from these areas. The lack of scholarly research is reflected in misunderstandings of the challenges and opportunities of the rural public school system which creates more questions than answers. There are intricacies that need to be understood when examining rural education as a whole, but especially rural gifted education. This study, like many before it, focused on one state's rural gifted education efforts rather than the United States as a whole. Lewis and Boswell found that Texas was one of the largest rural states; the National Center for Education Statistics (NCES) classifies 648 out of 1210 school districts there as rural. They explored the

types of teaching experiences, services and programming available for gifted students, whether programming exists, support by the school and community, challenges to gifted programs, and the value of these programs in rural schools.

Lewis and Boswell (2020) mentioned the persistent issue that there is no consensus on the definition of rural. Typically, most researchers define based on location and population density but is not the sole way of categorizing them. There is also a qualitative nature to rurality that cannot be understood by looking at quantitative data. The NCES codes used by this study use population density and location, though they did not take culture into account as this was presumed in the context of this study.

As of the 2013-2014 school year, in the United States there were 3.3 million students in gifted and talented programs and these students face challenges unique to their location. These programs are either underfunded or do not exist in rural areas and struggle to attract qualified teachers.

In Texas, Lewis and Boswell (2020) found that out of the total student population in the state, eight percent were identified as gifted. In contrast, only 5.8% were classified as gifted in rural schools. Even though rural schools do meet the suggested average of gifted students (i.e., 5-7%), the numbers reveal that rural students are less likely to be recognized as gifted. This study examined four rural districts, located in cities with a population between 900 and 3,000 residents. The researchers distributed a self-survey to teachers at these districts in order to assess their “perceptions and experiences with gifted and talented programs” (p. 188) in their schools. The qualitative data collected showed variation among teacher experiences, which reflects just how complex rural gifted education can be. While the majority of the teachers had

over five years of classroom experience, they yet did not meet requirements for professional development typically sought by gifted teachers in larger districts. The screening process for these schools was completed only once a year or upon request and some teachers were unaware of how the process was done. Only 15.73% of the respondents noted that their schools offered designated in school classes for the gifted, which is more of a drain on resources than in-class differentiated instruction (32.96%) and pull-out services (66.29%). Only 8.99% of the respondents said that their districts offer no programs outside of school hours. The others had services such as academic competitions, before or after school programs, and summer programs. The teachers' perceptions of gifted and talented programming support varied with majority noting support either always or occasionally. The lowest levels of support was provided by the community, although it was mostly positive. There could be a lack of communication between the school and community as to the importance of this programming, as some made note that if there were more information and understanding of gifted programming, it would more than likely be supported.

Gifted rural education is underrepresented in educational research but despite that, studies have found location to impact education, especially services beyond general classroom instruction such as gifted or special education. Puryear and Kettler (2017) conducted a study that focused on rural gifted education classification and how that affects the educational outcomes of these students. The purpose of this study was to "offer important implications for both the support for gifted education in rural settings and the usefulness of the census codes as an indicator in educational research" (p. 43). Using the National Center for Education Statistics (NCES) to classify these districts, the researchers found that nearly 20% of all K-12 students are

classified as enrolled in rural districts. According to the authors, location impacts the educational outcomes of students, especially those in gifted programs. In fact, rural schools "provide fewer resources and opportunities for identified gifted students than their counterparts in other locales and socioeconomic conditions" (p. 43). For the data associated with the demographics, financials, and student performance, the Texas Education Agency uses the database Academic Excellence Indicator System (AEIS). The researchers accessed this information for each public school district in the state for the 2010-2011 school year. The guiding questions were 1) "Are there differences in opportunities for gifted education program services between rural and nonrural school districts?" 2) "How does proximity affect the opportunities for gifted education program services in rural school districts?" and 3) "If proximity affects the educational opportunity for gifted education program services in rural school districts, are town school districts similarly affected by proximity?" (p. 145).

The researchers findings correlated with that of previous research. Instead of using the more broad terms for location that the NCES uses, Puryear and Kettler (2017) instead opted for the sub-categories. Overall, rural districts, when compared to nonrural districts, spent less money and allocated fewer faculty members to gifted programming. The rural subcategories were even more detailed; rural fringe districts spent $67 per gifted student and rural remote districts spent $47. The more remote the district, the less that was spent. In fact, the budget allocation for gifted education in rural fringe districts was 0.96%, in rural distant it was 0.51%, and rural remote it was a mere 0.36%. Even though this study focused its examination on Texas districts, it provided a gateway to further rural gifted education research.

In a 2009 paper, Howley et al. studied four aspects that impact rural education: decreasing population, poverty, demographics, and changing requirements and how these factors especially affect gifted education. They explained that although these challenges are not new, they require a response that can have greater consequences on gifted and talented students. The researchers examined studies from the previous five years in order to explain these challenges and the school responses to them. Most rural communities have experienced declining populations to varying degrees. Related to this is a phenomenon known as rural "brain drain." It is when these communities lose their highly educated people, for once students move away and earn a degree, they tend to not move back. Schools are negatively affected by this out-migration. As their enrollments decline, which in turn leads to a reduction in funding, schools become less financially able to provide specialized services or high-level courses.

Even though the economic situation in some rural areas is improving, many rural communities still struggle with persistent poverty. Low income and low wealth in an area impacts how a school is funded. Even if local property taxes, which contribute greatly to educational funding, are mediocre, rural schools lack the federal allocations, when compared to their urban and suburban counterparts. Nonrural areas receive 5.5 billion dollars more each year than districts located in rural areas (Rural Policy Research Institute, as cited in Howley et al., 2009, p. 520). This not only impacts resources such as devices, books, and other learning tools but also teacher recruitment and retention. Rural teachers are also paid less than those in other more populated districts overall. Rural teachers are also more likely to be less experienced, less educated, and less able to provide challenging coursework to gifted students.

Additionally, rural schools are changing demographically. There has been an increase in "minority" students, as they now make up almost 23% of all rural students. This increase in diversity has been a rapid change in some areas where schools have not been able to adapt quickly enough. As different forms of agriculture tend to be the main form of income in these areas, students may move to rural communities for a parent's job. These students come from a multitude of backgrounds but often have dealt with transience, meaning they may not be at the same academic level as their peers. Teachers and schools are not prepared to handle students that may need more assistance, such as English language services, but then also provide for the gifted population as well.

There are ongoing accountability requirements that impact rural schools greatly. As legislation has been passed in order to hold districts more accountable for student achievement at the state level, there have also been federal requirements. If these standards are met based on their annual performance, there are incentives for these districts. Rural schools had a hard time meeting these standards as they increased in difficulty. With a smaller population of students, their performance tended to be a result from "chance rather than from actual changes in student performance" (p. 526). This especially impacts gifted students as the changes in curriculum in order to meet these requirements can take the challenging content away.

Howley et al. (2009) made many suggestions for rural schools in order to best overcome the issues of decreasing population, poverty, demographics, and changing requirements. One option was consolidation. Although not an opportunity for schools in very remote areas, smaller schools are able to combine resources and population in order to implement more

programs. Another option was distance education. Students who seek a more challenging curriculum, and are unable to take post secondary courses at a local college or at schools that do not have Advanced Placement classes or a gifted and talented program, could instead take online courses to meet their academic needs.

In a 2015 study, Kettler et al. analyzed the disparities in the services provided to gifted students. They examined location and how much districts allocate for programs and faculty to gifted education. Typically, research has focused on the equity and identification to gifted education, rather than availability, access, and allocation based on rurality. The researchers stated that "Inequitable gifted education includes disparities of available educational opportunities for identified gifted students based on race/ethnicity, economic disadvantage, or geography/locale" (p. 101).

This study utilized data from Texas school districts in order to determine the inequities in gifted education due to location. The data was obtained from the Academic Excellence Indicator System (AEIS) of the Texas Education Agency, through the Public Education Information Management Systems (PEIMS), which provides information for all public and charter schools in Texas. The researchers posed two research questions; 1) "Does access to gifted education vary by locale (city, suburb, town, rural)?" and 2) "Which contextual variables are predictive of variance in funding and staffing gifted education programs?" (p.102). For the first question they analyzed three dependent variables regarding gifted education access across several locations. As for the second research question, they evaluated seven variables based on previous research in this area:

(a) proportion of the population characterized as economically disadvantaged

> (qualifying for federal free/reduced lunch), (b) proportion of the student population characterized as at risk for dropping out of high school (Texas Education Agency, 2012), (c) proportion of the student population representing minority groups (non-White), (d) proportion of the student population identified for special education services, (e) total number of students in the district (school size), (f) property value per pupil in the district (district wealth), and (g) total per-pupil expenditures in the district. (pp. 103-104)

As for access, Kettler et al. (2015) found that there were significant differences depending on the location. When examining expenditures and faculty to teach gifted classes, the per-pupil spending was notably lower in rural areas when compared to suburban districts. They allocated a much smaller portion of the budget to gifted and talented education. As for faculty to teach in these programs, there was also a deficit when compared to suburban schools.

The variables considered when answering the second question correlated with the findings of the first research question. Even though rural schools tended to spend more money per student, they still do not spend as much as other districts on gifted programming. Students who were disadvantaged economically or labeled as “at-risk” often attended schools that spent less on these programs. Although schools with more “minority” students did have more faculty members to allocate to gifted education, schools that had more students in special education programs were not able to do so. Property value did not have a positive relationship with resource allocation, as higher property values did not always mean higher expenditures for gifted education. Finally, larger districts that had a much larger population was the biggest predictor of resource allocation as they had a higher percentage of staff available for these programs.

## CHAPTER III: DISCUSSION AND CONCLUSION

This review sought to understand how location impacts rural education and its students. Overall, 30 studies regarding rural achievement and attainment, college readiness, special education, and gifted education were selected as part of this literature review. Across the board, the studies were consistent in their findings. That is to say, location has a distinct influence on the financial, educational, and family resources of students who are educated in rural areas. In all, this significantly affects the quality of their education (Pink-Harper, 2015; Roscigno & Crowley, 2001; Roscigno et al., 2006).

Over the past 100 years, scholars have tried to understand special needs of rural education (Biddle & Azano, 2016). Poverty is a key factor that influences rural education, and the majority of the most impoverished counties in the United States (48 out of 50), are in rural areas (Fishman, 2015). Beyond that, the other challenges that rural areas face are unique to their location, as they have a lower and more dispersed population, an economy driven by a single sector or jobs, and lack the resources found in more urbanized areas such as cultural centers and high-speed internet (Fishman, 2015). Rural areas are not attractive to new people because of these factors. New teachers not from these areas often see these smaller schools as stepping stones to a position in a more well-populated area. As they do not have the resources of suburban or urban areas and do not pay as well, it remains hard to recruit and then retain educators (Biddle & Azano, 2016).

Specifically in Minnesota, rural schools face the challenges of spread-out populations, financial hardships, aging infrastructure, and declining enrollments. As of 2006, there were 336 school districts in Minnesota, 68 of which had two or fewer students per square mile, which

covers almost 40% of the state's geographic area (McMurray & Ronningen, 2006). Rural Minnesota schools are also experiencing an increase in students who speak another language other than English at home, which rose by 20,000 students in less than a decade. This is just one factor impacting rural schools, as more financial resources are needed to meet the needs of these students that were not needed in the past. As enrollment declined by 17% between 2000-2001 and 2005-2006 school year, it became less financially feasible to cater to every students' specific needs. There is simply not enough money to spread to meet each and every students' needs.

**Impact of Location on Rural Student's Achievement**

The inadequacy of resources and their availability was found to be the biggest factor that impacts rural students' academic achievement (Roscigno et al., 2006). Schools were unable to invest in their students at the level of suburban schools, as suburban schools have better access to greater educational resources (Roscigno & Crowley, 2001). Due to spatial disparity, rural schools were unable to provide such investments as a wide array of courses, like AP classes, which is a factor in student achievement. There are simply not enough financial resources, as rural schools were allocated $600 less per pupil per year than suburban schools (Roscigno et al., 2006).

When examining these plaguing issues, the idea of place is not always stressed as important. Rural districts face many unique challenges that are often overlooked when examining the issue of dropout rates in the United States. Research in the U.S. mostly focuses on urban centers, even though many high school drop-outs do not attend urban schools.

Rather, it is rural areas that have been struggling with decreasing population, higher poverty rates, and “developing college-ready vs. workplace-ready young adults” (Wilcox, 2014, p. 1).

Wilcox (2014) found that rural schools with higher than average graduation rates have qualities such as high expectations, use of resources, and family and community engagement. These districts expect all students to meet the standards and give them the confidence and support to do so. They also take advantage of collaborative and professional development opportunities as well as digital opportunities for their students so they are able to go beyond the classroom. Finally, they are engaged, and a part of the community as a whole as the school in rural areas is the heart of these communities. Even though policy and research tend to overlook these areas, Wilcox’s (2014) study has implications for what can be done in the future. The most impactful way is for schools to look to their higher-performing cohorts in order to learn from their practices and seek to implement them in their own schools.

Poverty is a common factor seen throughout the research, as poverty is a decisive aspect that escalates the probability of dropping out and underachievement (Irvin et al., 2011; Miller et al., 2019). Although poverty does not affect the aspirations of rural students, it does impact their achievement. According to Irvin et al. (2011), the characteristics of high-poverty schools, like the percentage of students who receive free or reduced lunch, the student-teacher ratio, school size, and grade span, did influence attainment. Unlike previous studies, it was found that students who attended higher-poverty schools where K-12 were housed in the building often had lower educational attainment. This is an issue that typically affects rural areas, as smaller populations allow for this. It is not just school characteristics that influence attainment in poor rural areas but also community stressors and resources. Due to their

agricultural and more spatially spread-out nature, rural areas often neither have these same resources nor do they have the ability to provide these resources (Miller et al., 2019). In contrast, metropolitan areas have more opportunities for cultural activities such as museums, landmarks, concerts, and other resources like parks. These cultural aspects can influence academic skills as exposure to these places and activities can have a positive impact on students (Miller et al., 2019).

The opportunity for class variation is limited in rural schools, especially as it pertains to upper level courses such as Advanced Placement (AP) (Gagnon & Mattingly, 2016; Howley et al., 2009; Klugman, 2012; Siegle et al., 2016). According to Gagnon and Mattingly (2016), only 51.4% of rural districts had at least one student enroll in AP courses, which was significantly lower than the 78.3% of town districts, 93.8% of suburban districts, and 97.3% of urban districts. This is not only due to the lower population of students who may want to take these classes but also due to the staff available and qualified to teach them. If more of these classes were available to rural students, they might be better able to prepare themselves to continue their education, as they will understand the level of rigor required for college coursework.

### Differences in College Preparation Between Rural and Suburban Schools

Attaining a higher level of education can positively impact one's ability to expand career opportunities and make more income. Educational attainment can also impact the economic development of rural areas. As today's economy moves away from labor-based toward a more knowledge-based workforce, human capital becomes more valuable to areas that once relied on manual labor as it provides more prosperity and long-term stability (Pink-Harper, 2015). The

higher level of education students are able to achieve and then bring back to their rural hometowns directly results in a positive economic impact on the area.

The key issue is getting students to continue their education. Thirty percent of rural students earned a bachelor's degree, which was lower than 40% of suburban and 43% urban students who do (Schmitt-Wilson et al., 2018). Access to higher education should be attainable and equitable for all students, but location affects a student's ability to be able to do so in any form. Prior to YEAR, anything less than a four-year degree was seen as inferior in a professional environment. If there was a more inclusive and supportive definition of educational attainment that included two-year degrees, training in the trades, or anything beyond a high school diploma, students saw it as a more achievable goal.

Klugman (2012) found that the programmatic resources that schools make available to students also impact students' post-secondary choices. As well, high school resources can mediate the effects of a students' family socioeconomic status (SES). Students with a high SES typically attend better funded schools, which offer more resources and opportunities, and were correlated positively with attending private schools over public ones and negatively associated with attending rural schools. Klugman (2012) found that students with high family SES had a larger range of class options and were more prepared for the level of rigor in college. In rural schools, financial inequity created a lack of social and instructional resources that could not provide the high-level of learning than those in suburban areas.

While rural students might not be as adequately prepared, they also do not expect to continue their education at a four-year university. More nonrural students assumed that they would continue onto college (72.54% of urban students and 76.24% of suburban students) than

rural students (70.4%) (Li, 2019). Their parents had even lower expectations as 75.86% of rural parents expected their children to continue education, compared to 82.14% of urban parents and 82.81% of suburban parents. While that is seemingly not a very large gap in numbers, it does illustrate the lower expectations of rural students in terms of continuing their education.

Rural students are more likely to be first-generation college students, as Byun et al. (2012) found in a nationally representative survey. They found that 37% of rural students had parents who completed a bachelor's degree or higher, while 50% of both suburban and urban parents had done so. Their college experiences are also influenced by this as they become the first in their family to take this large educational step.

Being from a rural area, in general, can impact the experience of furthering one's education. Stone et al. (2018) looked at recent high school graduates and analyzed how their values impacted their experience. These students emphasized the importance of faith, family, and career. They thought that continuing their education was a way to not just assist in finding a successful career but also to help their families. If rural students are able to obtain a higher-level of education and find a higher-paying job, they can then contribute economically to their communities. These students need to be supported as they transition from high school to college as their situation and the issues they face are unique to their location (McCauley, 2020).

### Impact of Location on Special Needs and Gifted Students' Education

Both special education and gifted programs face some of the same challenges in rural schools. Although they are two separate entities, special education and gifted education are programs that go beyond general classroom instruction and are included in the same section.

**Gifted/Talented**

Gifted students from rural areas have the most hurdles to overcome when it comes to receiving an adequate education (Siegle et al., 2016). Kettler et al. (2015) found that disparities do exist based on location when it comes to gifted and talented education. Rural districts are often low in population and have much smaller budgets. They are unable to allocate resources, such as teachers, to these types of programs (Kettler et al., 2015). Puryear and Kettler (2017) explained that rural districts are financially unable to provide adequate resources to these services, and therefore do not properly serve that portion of their population.

As over 20% of the public school population attends rural schools, gifted students make up an even smaller portion but nonetheless still deserve an equitable education. In rural schools, there is often a lack of teacher preparation to serve these students that is paired with a lack of challenging curriculum. Howley et al. (2009) found that four aspects were the biggest challenges facing rural gifted education: decreasing population, poverty, demographics, and changing requirements. These have always been issues plaguing rural education but have greater consequences on gifted students. Gifted talent is unable to surface due to these barriers, as students are not in an environment that fosters them. Howley et al. (2009) suggested consolidation or distance learning as a more affordable option to improve these situations for rural students but those are not always viable options for very remote schools who are too far away from other districts to consolidate or do not have adequate internet to participate in online schooling.

Teachers that do serve the gifted and talented population in rural districts have to overcome the same challenges that all teachers face in rural schools. Financial limitations

impact all areas of these schools and due to this, many districts see gifted programs as an extravagance or not as crucial to these students' educational experience (Azano et al., 2014). As more focus is placed on students who struggle, rather than students who are excelling, gifted students are often overlooked.

Lewis and Boswell (2020) state that it is important to understand the culture of rural areas in order to provide adequate gifted education. A subject that scholarly research often overlooks, the challenges of rural public schools are often misunderstood. To improve areas like research and policy would be a consistent definition of rural (Kettler et al., 2016; Lewis & Boswell, 2020). A more consistent and well understood definition could improve these areas and therefore lead to reform and policy that could be put into place to improve gifted education in rural schools.

**Special Education**

Identification of special education students is the first step in getting them the support they need. With high poverty rates in rural areas, these students can experience negative educational outcomes due to the hurdles of locational disparity (Chandler, 2018). Importantly, there is not a consistent definition of rurality when it comes to special education. If there is a consistent definition, it can better allocate funding, resources allocation, and even research findings. These inconsistencies can greatly impact special education. Hawley et al. (2017) stated that there should be a more consistent definition of rural as it relates to special education policy and research in order to better help solve issues.

State and national policies are not always geared toward rural education (Rude & Miller, 2018). Changes should be made in order to improve special education policy in rural areas in

order to provide solutions for issues. It is important to make note of the positives of rural education like small class sizes, which means the opportunity for more personalized attention, a sense of community and a safe environment. Rude and Miller (2018) recommended that in order to make up for these slights, they should create and improve alliances with higher educational institutions, clarifying the government's role, addressing diversity, achieving comprehensive recruitment programs, elevating the profession of education, promoting different educator paths, ensuring salaries and benefits, and providing incentives. If partnerships are created between college and rural areas, teachers can be better retained and prepared. Understanding the role of the government can lead to securing resources and waivers through federal programs that are usually aimed at larger communities.

There are programs that seek to improve special education in rural schools. American Council for Rural Special Education has worked for almost 40 years to improve rural special education and provide it with a voice that it did not have before. Jones Ault et al. (2019) interviewed original members of the council in order to understand the evolution, history, and impact of this organization. Originally, ACRES was made up of rural teacher preparation grant program members and sought to discuss research and practices, be involved in governmental policy, get national attention, better prepare teachers, and help close the gap in research. ACRES members made sure to provide information on new practices, take advantage of the trickle-down effect by influencing higher education faculty, and better prepare special education teachers in general. ACRES was able to do this and greatly impact these areas, especially teacher preparation programs by providing the means to create successful programs

in their rural schools and even provide stipends to continue their education in order to better provide for their programs.

## Limitations

The lack of sources regarding rural education that are recent and relevant is apparent. There is a discrepancy of studies that focus on rural education in the United States, and more specifically in the areas discussed in this review (Gagnon & Mattingly, 2016; Koricich et al., 2018; Pink-Harper, 2015). There are few sources that cover the areas of achievement, postsecondary attainment, and special and gifted education that are within the past twenty years. Within those twenty years, there are very few resources that were germane to the topic. There are also limitations regarding each specified area. When it came to general information about rural education, there was information regarding specific areas, like Minnesota (McMurray & Ronningen, 2006), but not a lot about the United States overall. Other studies focused solely on one state, as in the case of Puryear and Kettler (2017) (Texas) and Wilcox et al. (2014) (New York). Although their information correlated with other studies that focused on the United States as a whole, it does not offer the same snapshot of rural education that nation-wide studies are able to. Due to the fact that the majority of the studies used the same resources for their data, the National Educational Longitudinal Study and the National Center for Education Statistics, the academic achievement portion, as well as the college readiness and attainment, the same information was repeated. The same statistics were often used to come to the same conclusions, that there is a lack of achievement and attainment in rural students. As for both the special and gifted portion of the research, the same researchers were the ones

conducting studies and doing the research. More research needs to be encouraged in rural education from more people as it will improve the outcomes and understanding of this topic.

## Implications for Future Research

The general lack of research regarding rural education in the United States limits the understanding of this unique situation. As well, many steps remain to be taken in the areas of research and policy in order to change rural students' educational outcomes. Locational poverty is a concurrent theme that plagues rural schools and needs to be studied further (Chandler, 2018). As Azano et al. (2014) noted that there is not a lot of research on gifted rural education, but rural education in general. Further studies need to be done into rural education overall but also into the more specified areas like college readiness, gifted education, and special education. The more scholarly research conducted can lead to solving the issues in rural education. If more is understood about this situation, specific challenges can be targeted.

## Professional Application

This research has had a great impact on how I will teach rural students now and in the future. As I have faced these challenges as both a student and a teacher, I understand how crucial it is to have teachers who recognize the unique environment of rural schooling. While there are problems to overcome, it is important to embrace the many benefits and uniqueness of teaching in a rural area.

As a teacher, there is not much I can do about the lack of financial resources, as I am not in charge of how or where money is spent. I can, however, advocate for my students and push for classes that better suit the needs of my students. Although I am not the final say, I have to be the voice for change. In my position, I can take advantage of aspects such as smaller class

sizes. This provides an even greater opportunity to get to know students and make connections with them. Indeed, I see my students many times a day and this unique context allows me to more aptly tailor my classes and activities to fit their likes, dislikes, and needs.

Thus far, I have focused on gifted and special education. In my current district placement, there is neither a gifted program nor Advanced Placement classes. The students who crave challenge are overlooked and must stay with the flow of their classmates. These students often finish their assignments early, so I have created activities for them to further their knowledge on a subject we are learning or even a point in history in which they are interested that we do not cover. I do not frame this as "extra work" but rather "extended learning." This form of differentiation is small but it is something that I do to challenge my students that go unidentified as gifted.

I have also applied differentiation to my special education students. Teaching in a 6th-12th grade school with only very three and a half special education teachers means that they have a large workload. I do what I can to collaborate with these teachers to ensure that special education students are getting the most out of my classes. I do not necessarily have a chance to work one on one with them everyday, so taking these assignments and altering them to fit their learning needs has turned out to be the best solution. This is not about making assignments and activities shorter or "easier." Instead of doing a self-guided research project, we work together and go step-by-step. These students still do their own research but in a group and with assistance. If we have a reading with questions, students are given the option to either read them together, by themselves, or with me.

I understand that these are not revolutionary ideas and that many, if not most teachers differentiate assignments. The difference is about taking advantage of the rural schooling environment. Instead of dwelling on the negative aspects of rural education that are consistent throughout all aspects of the research, I choose to see the situation as an asset.

## Conclusion

This review sought to explain the issues facing rural education in order to understand how locational disparity impacts educational equity. A lack of financial resources due to poverty and a lower population impacts every aspect of rural education. As students in rural areas do not have the same access to the resources as those in suburban areas, they are unable to experience the same levels of academic success. This impacts their ability, expectations, and ultimately, their success in continuing their education.

If rural students are not able to be challenged in school or not held to the same standards, they will not see themselves continuing their education or struggle to adjust to that academic environment. If the means to provide an adequate education are not there for general education students, special education and gifted education are even more highly affected. As a centralized definition does not exist in either of these areas, which means there are more misunderstandings which leads to issues remaining unsolved.

Rural education is not at a complete disadvantage, as there are assets that are unseen anywhere else in the country. A lower population, that is spread out means smaller classes and more individualized attention. There is a sense of community in rural areas as everyone knows everyone and tends to look out for one another. There are also skills learned in these areas that one might not find in the heart of the city, including, but not limited to an emphasis on

agriculture. There are definitely advantages to being from a small town, but sadly, that does not always outweigh the disadvantages.

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