*Theory & Practice in Rural Education (TPRE)*
2023, Vol. 13, No. 2, Pp. i-iii
Copyright 2024 ISSN: 2641-7170
https://doi.org/10.3776/tpre.2024.v14n1pi-iii

# Editorial: Introductions

**Sheresa Boone Blanchard***, Executive Editor*, *TPRE*
**Jennifer Levi Williams,** *Journal Manager, TPRE*
**Arleth Medal,** *Assistant Editor, TPRE*

The *Theory & Practice in Rural Education* continues to serve as the publishing home for many rural education teachers, researchers, and scholars. We recognize and value rural communities' unique and essential assets at the Rural Education Institute. By providing access to high-quality, meaningful, and relevant research articles, we aim to highlight these assets while also providing rural communities with research that recognizes and assists in tackling the communities' unique challenges. The editorial team is honored to support TPRE and its authors in delivering critical topics for the field.

This current issue focuses on a wide range of topics that provide insight into the experiences of students, adolescents, young adults, and teachers in rural communities. Topics explore how COVID-19 impacted teaching and learning technologies and due process hearing decisions, lessons learned about teacher recruitment and retention, and the impact of local projects. The issue also includes articles on adolescence, including intentions and participation in postsecondary education, peer relationships, and academic motivation. Additionally, young adults were included in studies focused on a postsecondary tuition support program and how hope mediates academic resilience among Appalachian young adults. Articles described several methods, including mixed methods, qualitative, and quantitative.

TPRE is supported by ECU Library Services and the Rural Education Institute. All manuscripts undergo a double-blind review process coordinated by the staff, including the Journal's Executive Editor, Journal Manager, Assistant Editors, Associate Editors, and Reviewers. This issue's publication would not have been possible without the continuous support of various individuals. Special recognition goes to Jennifer Levi Williams, the Journal Manager; Arleth Medal, the Assistant Editor; Dr. Robert Quinn, the Associate Editor for the Research and Practice Forums; Dr. Jan Lewis, the Director of J. Y. Joyner Library; Joseph Thomas, the Assistant Director for Collections and Scholarly Communication, Joyner Library; and Nick Crimi, the OJS Administration, Joyner Library. The journal extends its gratitude to the reviewers on the editorial board and the authors who have contributed their valuable work to this issue.

Looking ahead, the journal is currently accepting manuscripts for the next general issue, which is scheduled for publication in the spring as per tradition. Scholars and practitioners in rural education are invited to submit their work to the Research Forum, the Practice Forum, the Digital Projects Forum, or the Book Reviews Forum for 2025

general issues. Manuscripts for general issues are typically due in the fall, with expected publication dates in May. Special issues topic manuscripts are typically due in late winter, with publication expected in the fall. Our Fall 2025 special issues topic will be Rural Community Schools.

Those interested in participating as peer reviewers can register on the journal's website (http://tpre.ecu.edu). By editing their profile and navigating to the "Roles" tab, individuals can select "Reviewer" and specify their interests related to rural education. Additionally, we are currently seeking an Associate Editor for the Practice Forum. If you are interested in this position, please email your CV and short statement of interest to tpre@ecu.edu.

## About the Authors

**Sheresa Boone Blanchard,** is an Associate Professor at East Carolina University in the Department of Human Development and Family Science and a senior education researcher at SRI Education. Her research and teaching focus on family/community engagement, inclusion, families of color, assessment, early intervention, rural education, and improving teacher preparation competencies through lenses of intersectionality, equity, and social justice. Her scholarly interests emerged from over 25 years of experience as a teacher, practitioner, and consultant in early childhood, special education, and early intervention. Since Fall 2020, she has been an ECU Rural Education Institute Associate Faculty member.

**Jennifer Levi Williams,** MA, is an adjunct instructor and university supervisor in the College of Education at East Carolina University. She is also the journal manager for TPRE. Her education includes a bachelor's and a master's in Elementary Education from East Carolina University. Jennifer is nationally board-certified in K-12 reading and gifted education. Before her work at East Carolina University, Jennifer taught for ten years in public schools.

**Arleth Medal** is a graduate assistant at the Rural Education Institute and assistant editor for TPRE. She is entering her third year as a master's Plus Specialist in the School Psychology program at East Carolina University. She has professional experience supporting individuals with developmental disabilities and behavioral challenges and aims to acquire knowledge in supporting the unique needs of students residing in Eastern North Carolina.

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*Theory & Practice in Rural Education (TPRE)*
2024, Vol. 14, No. 1, Pp. 1-29
Copyright 2024 ISSN:2641-7170
https://doi.org/10.3776/tpre.2024.v14n1p1-29

# Rural Online Learning During COVID-19: What We Learned and What has Changed

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The fall of the 2020 school year was a unique historical moment that saw the temporary closing of many brick-and-mortar school buildings. School personnel were forced to reexamine instruction delivery due to the rapid pivot in technology use through the implementation of online learning. This article will describe the quantitative results of an online survey completed during the critical timeframe of fall 2020. Rural educational leaders who participated in the survey provided insights on access to teaching and learning technologies that affected students with and without disabilities. The impacts of the digital divide on rural schools are examined, including broadband access and reliability. The article will also provide an update on relevant changes to the digital divide that have taken place since the deployment of the survey.

***Keywords*: rural; disabilities; digital divide; broadband; educational technology; educational equity**

Few times in the history of education have yielded circumstances so unique that the impacts have the potential to resonate for years, if not decades. The fall of the 2020 school year was just such a historical moment. Due to the COVID-19 pandemic, many brick-and-mortar school buildings were closed, forcing schools and families to reexamine traditional instruction. Despite the closure of school buildings, the public schools' obligation to students remained. Students were entitled to a comprehensive education; therefore, schools substantially changed how instruction was delivered using online instructional technologies (Lai & Widmar, 2021). This article describes the quantitative results of an online study completed between August 2020 and October 2020 that investigated rural educational leaders' perceptions of using online instructional technologies before and during the COVID-19 pandemic.

The COVID-19 pandemic changed how schools delivered instruction to all students, with little time to prepare for the unexpected move to online learning. Students in rural areas were at a greater disadvantage due to the digital divide that inequitably impacted access to reliable broadband networks and technology in these remote areas

compared to students in urban or suburban communities. Rural educational leaders were in a difficult position as they oversaw the pivot to online learning in their schools.

The movement to online learning disrupted the learning of most students. Yet, students with disabilities were in a unique position. By definition, students with disabilities struggle with learning in classroom settings (IDEA, 2004). However, the COVID-19 pandemic created unexpected and substantial obstacles to providing instruction and related services for students with disabilities (Young & Donovan, 2020). While face-to-face learning provides challenges for students with disabilities, online learning for this student group is challenging when classroom supports are not provided. Self-regulation, motivation, learning pace, and even physical support become problematic when learning virtually (Young & Donovan, 2020).

In the United States (U.S.), school closures forced 7.2 million students with disabilities to receive their education and special education services online (National Center for Education Statistics, 2022). However, under the Individuals with Disabilities Education Act (2004), school districts were still required to provide free and appropriate public education (FAPE), including specialized instruction and related services (U.S. Department of Education, 2020). The U.S. Department of Education did acknowledge the "unique and ever-changing environment" while cautioning school districts that FAPE was still required even if FAPE was provided through virtual or online instruction (p. 1). However, the Department did urge caution regarding delivering face-to-face or physical services such as hands-on physical or occupational therapy or sign language services. Nonetheless, schools were still required to provide accommodations such as extended time, accessible reading materials, videos with closed captioning, and other accommodations required by a child's individual education programs (IEP) as long as schools provided appropriate instruction (U.S. Department of Education, 2020). Still, many students with disabilities had the potential to be disconnected from the regular provision of special education services that they typically received in their brick-and-mortar schools. Educational leaders needed to fulfill the requirements of the law while ensuring the safety of their students and staff.

The current study investigated educational leaders' perceptions of their schools' use of online learning before and during the pandemic and their shared experiences regarding access to educational technologies, providing valuable insight into schools' challenges. The effect of the pandemic has continued for years beyond the initial period of school closures, and work remains to ensure that students in rural schools can equitably access online learning technology.

Teaching and learning technologies are now essential elements in K-12 education as they have become powerful tools for transforming student learning. These technologies can help reinvent and refocus classrooms as they move to more student-centered learning to prepare students for 21st-century technology, social, and learning

demands (Zhang et al., 2021). In fact, teaching and learning internet technologies are uniquely positioned to help students develop 21st-century skills. Critical 21st-century skills supported by teaching and learning technologies include collaborative learning, knowledge construction, critical thinking, problem-solving, and creative thinking (Chai & Kong, 2017). Yet, students in rural schools have consistently lacked access to reliable broadband internet (Power et al., 2020) that supports access to learning 21st-century skills. As the COVID-19 pandemic caused schools nationwide in the U.S. to pivot to online instructional delivery during the spring and fall of 2020, students in rural schools remained disadvantaged due to technology and resource-related issues (Gallegos et al., 2022).

Clearly, the use of online teaching and learning has been increasing over the last 20 years (Tonks et al., 2021). Before the COVID-19 pandemic, an estimated 1.4 million K-12 students attended online (virtual) schools in the U.S., with another 1.5 million K-12 students taking individual supplemental online high school courses for credit recovery (Digital Learning Collaborative, 2020). Yet, the proportion of students with disabilities receiving special education services attending full-time online schools (6.7%) was substantially below the national average of 13.1% (Molnar et al., 2021). Additionally, 12.4% of students enrolled in schools with programs that provided blended learning opportunities (combining online learning in a traditional classroom) were those with identified disabilities (Molnar et al., 2021).

One in five students in the U.S. attend rural schools, which equates to about 9.3 million (Showalter et al., 2023). As expected, rural schools are often quite small and have a median enrollment of only 493 students (Showalter et al., 2023). Yet, rural is not a universal term. Rural communities differ greatly, with their landscape ranging from lush, forested lands to underpopulated towns nestled deep within the Rocky Mountains. Essentially, a comprehensive and succinct definition has yet to be developed due to the great diversity of rural settings (Longhurst, 2022; Thier et al., 2021). Rural schools themselves have a variety of strengths, including strong community engagement (Johnson & Howley, 2015) and benefits derived from being smaller organizations, including smaller class sizes, students experiencing a greater sense of belonging, increased safety, easier implementation of new ideas, and higher self-efficacy among teachers (Jimerson, 2006).

Rural communities also face unique challenges that are often manifested under the common theme of economic inequality (Tieken & Montgomery, 2021). One result of economic inequality can be found in the current digital divide in rural areas. Essentially, internet broadband services and the lack of computing devices have left rural communities and schools technologically underserved compared to their suburban counterparts (Jameson et al., 2020; Riddlesden & Singleton, 2014). According to school district leaders, the greatest ongoing concern for years has been schools' ability to

provide students with reliable remote instruction, a situation exacerbated during the COVID-19 pandemic (Jackson & Garet, 2020).

The current study was conducted between August 2020 and October 2020 to query rural educational leaders' perceptions of how their schools used online instructional technologies. This timeframe provides a unique insight into rural educational leaders' experiences as they attempted to provide equitable educational opportunities for all students, including those receiving special education services, in their rural districts and schools. This article also examines several technology changes and educational implications of the COVID-19 pandemic. The understanding gained from this study may help provide insights for addressing technology-related issues in rural schools and highlight the need for continued research and practice to support all students with and without disabilities. While another pandemic may not be imminent, localized short-term and longer-term school closures resulting from natural or weather-related disasters may directly affect rural schools. Rural technology-related issues persist, as exemplified by the current digital divide.

## Digital Divide

There continues to be unequal access to the Internet across the U.S. (Shakina et al., 2021). As a result, issues with internet access have been encapsulated using the term *digital divide*. Internet availability and digital inequity helped to originally define the digital divide when discrepancies were first identified over twenty years ago (e.g., Dewan & Riggins, 2005; Hoffman et al., 2000). The digital divide now includes the gap between households with reliable access to broadband technology and households with poor or no broadband access (Lythreatis et al., 2022).

The definition of the digital divide has evolved to include three levels: access, skills and usage, and outcomes (Shakina et al., 2021; Wei et al., 2011). Level 1 is access to information and communication technology (ICT), Level 2 is variability in digital skills and usage, and Level 3 is achieving beneficial outcomes using the internet (e.g., Shakina et al., 2021.; Wei et al., 2011). The definition of the digital divide is hierarchical, with each level encompassing the lower level. Level 3 is the highest level, including ICT access, skills and usage, and outcomes.

The digital divide itself is influenced by several factors, including geographic settings (i.e., rural, urban, or suburban), the cost and deployment of technology infrastructure, and socio-economic factors (Reddick et al., 2020). Rural settings often experience digital inequities more readily than suburban or urban settings since the cost of installing broadband internet infrastructure is more costly, making it less profitable for internet service providers to provide services for rural locations (Obermier, 2018; Riddlesden & Singleton, 2014). Schneir and Xiong (2016) developed a cost model indicating that deployment costs in rural areas are 80% higher than in most urban areas. Rural areas require more infrastructure investment to run the broadband to homes (i.e.,

longer distributions, feeders, and drop segments). The exorbitant deployment costs for areas with reduced population density and reduced profit potential for service providers make it less likely that those in rural areas will have access to the internet.

The speed of the broadband network further impacts the digital divide. For this article, broadband connectivity is defined as the speed of data transfer that is available when using the internet. Broadband speed impacts the number of devices that can access the internet simultaneously and the quality of the internet. A broadband speed of 250/25 megabits per second is reasonable for operating four devices (e.g., phones, computers, laptops, digital televisions, etc.) in a household (Federal Communications Commission, 2020). For homes with multiple school-aged children, broadband speed is important for equitable access to online instructional technologies. Unfortunately, broadband speeds are slower in rural settings and come at a higher cost than in urban or suburban areas (Obermier, 2018; Riddlesden & Singleton, 2014). The outcome is that rural areas likely have lower broadband service levels and higher access costs, furthering digital inequities.

Socio-economic factors amplify digital inequities in rural areas. A major contributing factor to the digital divide in rural areas is related to the poverty rate in rural areas (Kormos, 2018). The U.S. Department of Agriculture (2019) has reported that high poverty rates in isolated rural areas are especially persistent. Thus, accessing broadband internet and internet-connected computing devices is more difficult in rural areas, worsening the digital divide (Jameson et al., 2020; Riddlesden & Singleton, 2014). Only about 72% of rural Americans have access to broadband internet in their homes, and they are less likely to have multiple internet-capable devices than urban or suburban families (Vogels, 2021). Access to education relied heavily on connectivity and internet-capable devices throughout the COVID-19 pandemic, especially during times when brick-and-mortar schools were closed.

## Digital Divide in Schools

Issues related to technology funding have exacerbated the digital divide in many rural schools, as witnessed during the COVID-19 pandemic. Yet, rural schools have been employing distance learning and online instructional technologies for a number of years (Hannum et al., 2009). In a national survey of rural school systems, Hannum and colleagues (2009) found that 85% of rural districts participating in their study used some distance education at some point, and 69.3% were currently using distance learning technologies. Currently, technology use in rural schools has increased, with 93% of teachers having access to computers for student use and access to the Internet (National Center for Education Statistics, 2023a). These technologies have helped reduce the geographic isolation that is often prevalent in remote towns and schools. When available, broadband internet has also provided opportunities for rural students to develop their 21st-century skills (Power et al., 2020). Yet, 11% of rural students who access the internet from home for studying and homework purposes need to use mobile broadband

subscriptions, generally their mobile phones (National Center for Education Statistics, 2023a). The National Center for Education Statistics also found that students in remote rural areas had the lowest access to fixed broadband internet access (69%) of any locale (e.g., towns, cities, suburban, urban).

## Theoretical Framework

Inequities prevalent in rural settings continue to exacerbate the digital divide. Despite advances in high-speed internet and improvements in infrastructure and hardware, access remains a core hardship for rural families. Inequitable access to technology also disadvantages rural students and families compared to urban or suburban students and families. The lack of access is an equity issue. The term equity has been used in the literature for many years; however, there is no consensus regarding the meaning of equity (e.g., Adams, 1963; Bolino & Turnley, 2008; Pick & Sarkar, 2016). The most appropriate application of equity for the current study revolves around technology access.

Van Dijk (2017) proposed the Resources and Appropriation Theory, the current study's theoretical framework. The Resources and Appropriation Theory posits that societal inequalities produce an unequal distribution of resources, leading to unequal access to digital technologies, which in turn contributes to unequal participation in society (Van Dijk, 2017). Unequal participation reinforces categorical inequalities and unequal distribution of resources (Van Dijk, 2017). The cyclical nature of the Resources and Appropriation Theory explains how the digital divide perpetuates inequality in rural settings.

Van Dijk's (2017) Resources and Appropriation Theory provided the appropriate foundation for quantitatively examining participant responses because of the underlying focus on access. While the digital divide has persisted for over 20 years (Dewan & Riggins, 2005; Hoffman et al., 2000), the COVID-19 pandemic thrust it to the forefront of education as rural schools were greatly impacted by issues of equitable access to instructional technologies (Kormos, 2018). Van Dijk's (2017) theory positing that societal inequalities form the foundation for the pervasive inequalities that persist in the distribution of resources, access to digital technologies, and participation in society provided an appropriate theoretical lens through which to examine participant responses. This theoretical framework supported our data analysis by providing the specific lens through which we viewed the internet teaching and learning technology inequities identified by our participants. The theoretical framework also gave us a better perspective of how participants perceived differences in access to teaching and learning technologies, technical support, and access to special education services before and during the COVID-19 pandemic.

## Online Teaching and Learning Technologies

The COVID-19 pandemic forced schools to quickly close and pivot to online learning in the spring and fall of 2020. With little time to prepare, educators, students, and families were thrust into online instructional technologies regardless of a student's age or ability. With minimal time to convert face-to-face lessons to online instruction, teachers rushed to redesign lessons and learn new technology alongside their students. The success of online learning depended heavily on the quality of the internet connection and the availability of devices needed to access learning materials.

The expression "teaching and learning technologies" encompasses several terms. These include web-based classroom technology, remote learning, mobile learning environments, digital learning, educational technology, e-learning, instructional technology, online learning, distance education, and e-learning technologies. For the purpose of this study, we used the operational definition of teaching and learning technologies that were developed by the Association for Educational Communications and Technology (AECT), which defined educational technology as "the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources" (Januszewski & Molenda, 2013, p. 1). Teaching and learning technologies provide opportunities for a more student-centered learning environment that de-emphasizes lectures and other teacher-centered approaches (Kormos & Julio, 2020).

## Method

The current study was developed due to the impacts of the COVID-19 pandemic, which caused schools to quickly pivot to using various online teaching and learning technologies. This study investigates the perceptions of rural educational leaders in school districts across six central U.S. states regarding school technology, technical support, the abilities of students with disabilities to learn online, and special education service delivery. The current study used the National Center for Educational Statistics (NCES) (2024) levels of rurality to define rural settings. Rural areas that are five miles or less from an urban area are considered Fringe. Rural areas between five and 25 miles from an urban area are identified as Distant. Rural areas located over 25 miles from an urban area are labeled Remote. For data analysis purposes, the NCES rurality levels were broken into more granular levels that included six levels rather than three. Rural educational leaders were operationally defined for this study as district-level special education directors, district administrators (not special education directors), and school principals. The study addressed the following research questions:

1. What do rural educational leaders perceive as the differences in access to internet teaching and learning technologies for delivering instruction in rural districts *before* and *during* the COVID-19 pandemic?

2. How do rural educational leaders perceive the effectiveness of technical support for online teaching and learning technologies *during* the COVID-19 pandemic?
3. How do rural educational leaders perceive how special education services are provided and monitored *during* the COVID-19 pandemic?
4. How do rural educational leaders perceive the abilities of students with disabilities to learn online *during* the COVID-19 pandemic?

## Participants

Invitations to take the online survey were emailed to individuals using the Qualtrics survey service. Questionnaires were distributed to rural educational leaders in six states, including Colorado, Nebraska, North Dakota, South Dakota, Missouri, and Wyoming, in early August 2020. The email lists were compiled by contacting the state departments of education, which granted permission to use their email lists. 4,649 email invitations were first sent. Three reminder emails were sent to non-respondents between August and late October 2020. One hundred sixty-seven respondents completed surveys for a response rate of 3.6%, with a survey completion rate of 62%. We felt that the low response rate could be attributed to the demands on rural educational leaders resulting from the COVID-19 pandemic. Table 1 describes the characteristics of study participants.

**Table 1**
*Participant Characteristics*

| Characteristic | n | % |
|---|---|---|
| Participant | | |
| Role | | |
| Principal | 63 | 44.4 |
| District-level Administrator (not Special Education Director) | 63 | 44.4 |
| Special Education Director | 16 | 11.2 |
| Years | | |
| 1-5 years | 39 | 27.7 |
| 6-10 years | 20 | 14.2 |
| 11-15 years | 35 | 24.8 |
| 16-20 years | 29 | 20.6 |
| More than 20 years | 18 | 12.8 |
| District Size | | |
| Less than 500 students | 57 | 40.4 |
| 501-750 students | 15 | 10.6 |
| 751-999 students | 9 | 6.4 |
| More than 1,000 students | 60 | 42.6 |
| Rurality – Miles from an urban or suburban area | | |
| 1-10 miles | 28 | 19.9 |
| 11-20 miles | 12 | 8.5 |

| | | |
|---|---|---|
| 21-30 miles | 23 | 16.3 |
| 31-40 miles | 15 | 10.6 |
| 41-50 miles | 19 | 13.5 |
| More than 50 miles | 44 | 31.2 |
| School Size | | |
| Less than 50 students | 9 | 6.6 |
| 51-200 students | 57 | 41.9 |
| 201-350 students | 23 | 16.9 |
| 351-500 students | 26 | 19.1 |
| 501-650 students | 6 | 4.4 |
| 651-800 students | 1 | 0.7 |
| 801-950 students | 4 | 2.9 |
| More than 950 students | 10 | 7.4 |
| Free/Reduced Lunch | | |
| 1-25 % | 16 | 11.8 |
| 26-50 % | 43 | 31.6 |
| 51-75 % | 58 | 42.6 |
| 76-100 % | 19 | 14 |

**Instrument**

The survey instrument was developed based on the limited relevant research available during the beginning of the COVID-19 pandemic. So, the research questions guided the development of the survey instrument. The instrument itself was divided into two main sections: quantitative and qualitative open-ended questions. Due to the depth of data derived from the survey instrument, the qualitative data analysis was published separately in a prior article (Sundeen & Kalos, 2022). The current article provides a data analysis of the quantitative elements of the survey instrument.

The quantitative section of the questionnaire was developed to assess the perceptions of rural educational leaders regarding differences in access to Internet teaching and learning technologies before and during the COVID-19 pandemic. A five-level Likert scale ranging from excellent to not acceptable was used for most questions. Questions were also formulated to understand how effectively technical support was provided in rural schools and districts since modern technology must be properly and consistently maintained to be effective. The questionnaire also included questions to help determine how IDEA (2004) special education services were provided, given the quick transition to online learning in many schools. Rural educational leaders were also queried on their perceptions of how well students in specific IDEA (2004) disability categories could learn using internet-based learning technologies. The final section of the questionnaire included several demographic questions that categorized the role of respondents (principal, district-level administrator [not special education director], and special education director) and their years as rural educational leaders. Distance in miles

from a suburban or urban center was also determined, as was district size based on number of students and the number of schools in the district. Rural educational leaders were also asked to rank the average school size in their district based on number of students attending. The percentage of students receiving free and reduced lunch was also queried.

## Data Analysis and Findings

Differences in access to internet teaching and learning technologies for delivering instruction in rural districts *before and during the COVID-19 pandemic, variable frequency, and relationships between variables were explored using* descriptive and statistical analysis. Frequency analysis was completed for commonly used teaching and learning technology variables (see Table 2).

**Table 2**

*Teaching and Learning Technologies: Prior and During COVID-19*

| Technology | Prior | | During | |
|---|---|---|---|---|
| | n | % | n | % |
| Computers | 154 | 91.70 | 154 | 91.70 |
| Tablets | 103 | 61.30 | 104 | 61.90 |
| Cell Phones | 58 | 34.50 | 105 | 62.50 |
| Virtual Reality | 15 | 8.90 | 13 | 7.70 |
| Augmented Reality | 4 | 2.4 | 2 | 1.20 |
| Other | 10 | 6.00 | 11 | 6.50 |

## Overall Teaching and Learning Technology

Inferential statistical analysis was used to examine the relationships between several variables, including overall teaching and learning technology status, specific teaching and learning technology usage, and service provision for students with disabilities. Independent t-tests were performed to examine the relationships between educational leaders' perceptions of differences in conditions prior to versus during the COVID-19 pandemic. Note that the study respondents answered the questionnaire only once. So, when asked about *prior* to and *during* conditions, they recalled these conditions on the same survey during the early school year in the fall of 2020.

The two variables representing overall teaching and learning technology status *were examined before and during the COVID-19 pandemic*. Based on Levene's Test for Equality of Variances, equal variances were assumed. Results indicated statistically significant mean differences between the *prior* ($M$ = 2.38, $SD$ = .85) and *during* ($M$ = 2.73, $SD$ = .96; t (334) = -3.60, $p$=.000, two-tailed) conditions with a 95% confidence interval ranging from -.55 to -.16. The magnitude of the differences in the means (mean difference

= -.36) was small (eta squared = .038). In other words, 38% of the variance in overall technology status is explained by differences in the *prior* and *during* conditions.

Nonetheless, there *was* a significant difference in how rural educational leaders perceived the changes in their overall technology status when asked to compare *prior* to the COVID-19 pandemic and *during* the early school year 2020. In fact, descriptive variables showed that of the rural educational leader respondents, 56% rated the Overall teaching and learning technology status before the COVID-19 pandemic as excellent or good, while only 43% rated the status as excellent or good during the COVID-19 pandemic.

Multiple linear regression analyses were used to develop a model to predict possible influences on the *Overall teaching and learning* variable during the COVID-19 pandemic. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity, and homoscedasticity were present. The model evaluation indicated that 57.6% of the variance in *Overall teaching and learning* during the COVID-19 pandemic was attributed to seven variables: broadband reliability, broadband service meets demands, gaps in broadband internet coverage, overall broadband internet coverage, cell phone service coverage gaps, technology support overall, and time for technology problem resolution $F(7, 153) = 10.83$, $p < .001$, $R^2 = .331$ (see Table 3). Three model variables were statistically significant. The variables included gaps in broadband internet coverage, overall broadband internet coverage, and technology support overall. The strongest unique contribution was provided by the technology support overall variable (β=.486).

**Table 3**

*Multiple Regression of Overall Teaching & Learning Technology Status During the Pandemic*

| Variable | *B* | 95% CI for *B* | | SE *B* | β |
|---|---|---|---|---|---|
| | | *LL* | *UL* | | |
| Overall Status – During | | | | | |
| Broadband Reliability | -.058 | -.298 | .183 | .122 | -.064 |
| Broadband Meets Demand | -.066 | -.324 | .192 | .131 | -.069 |
| Broadband Gaps | .172* | .013 | .331 | .080 | .206* |
| Broadband Coverage | -.214* | -.417 | -.010 | .103 | -.201* |
| Cellphone Service Gaps | -.084 | -.209 | .042 | .064 | -.093 |
| Technology Support Overall | .506* | .306 | .705 | .101 | .486* |
| Technology Issue Resolution Time | -.115 | -.282 | .051 | .084 | -.128 |
| | | | | | |
| $R^2$ | .331 | | | | |
| Adjusted $R^2$ | .301 | | | | |
| *F* | 10.83* | | | | |

*Note:* CI = confidence interval; *LL* = lower limit; *UL* = lower limit; *$p$ < .001.

### *Technology Support*

Technology support was examined through three questions. Most rural educational leaders reported that their technology support was provided at the district level (86.3%; n=145) rather than at the school level (13.7%; *n*=23). Providing support from a more centralized location makes sense from funding and resource availability standpoints. Rural districts often struggle with overall school funding and resource access (Kormos & Wisdom, 2021; Showalter et al., 2023).

Technology support is time-sensitive when large numbers of students depend on access to online learning technologies. Rural educational leaders reported that most technology problems were solved in one day or less (69.7%; *n*=142). Some technology issues were resolved in two to three days, as reported by 21.6% (n=35) of respondents. Other rural educational leaders indicated that technology-related issues were not solved until four to seven days after being reported (8.7%; *n*=14).

The current study also addressed the question of overall technology support satisfaction. Results indicated that 38.7% (*n*=63) of respondents felt the overall technology support was *excellent*. Additionally, support was rated as *good* or *average* at 41.7% (*n*=68) and 13.5% (*n*=22), respectively. Ten responses indicated that overall technology support was *poor* (4.9%; *n*=8) or *unacceptable* (1.2%; *n*=2). Generally, overall technology support for rural districts was regarded positively.

A multiple linear regression model was used to examine the ability of two variables to predict rural leaders' perception of *Overall teaching and learning status during the pandemic*. The two predictor variables included *overall technology support* and *time to solve technology problems*. The model provided significant results $F(2, 159) = 19.20$, $p < .001$, $R^2 = .199$ (see Table 4). *Technology support* and *time to solve technology problems* explained 44.6% of the total variance. So, during the COVID-19 pandemic, the perception of overall teaching and learning status was significantly affected by how technology support was provided and the time it took to receive it.

**Table 4**

*Multiple Regression of Overall Teaching & Learning Technology Status During the Pandemic; Technology Support Variables Only*

| Variable | *B* | 95% CI for *B* | | SE *B* | β |
|---|---|---|---|---|---|
| | | *LL* | *UL* | | |
| Overall Status – During | | | | | |
| Technology Support Overall | .559* | .357 | .761 | .102 | .537* |
| Technology Issue Resolution Time | -.147 | -.231 | .028 | .088 | -.163 |
| | | | | | |
| $R^2$ | .194 | | | | |
| Adjusted $R^2$ | .184 | | | | |
| *F* | 19.20* | | | | |

*Note:* CI = confidence interval; *LL* = lower limit; *UL* = lower limit; **p* < .001.

### *Broadband*

A dichotomous (yes/no) variable was used to examine districts' broadband availability. Of the 167 respondents, 78% (*n*=130) of rural educational leaders estimated that broadband coverage was available for their districts. Nonetheless, 22% (*n*=37) of rural leaders expressed that broadband internet was unavailable in their district—the potential impacts of a 22% gap in school district coverage loom. Students may struggle with learning in a typical setting and miss substantial learning opportunities due to a lack of broadband internet access.

Broadband reliability and the ability of broadband to meet the demands of schools were also queried. Table 5 shows the results of both variables. Note that 8% of rural leaders indicated that broadband reliability (*n*=14) was either *poor* or *not acceptable*. Similarly, 8% also indicated that their available broadband was *poor* or *not acceptable* at meeting their demands (*n*=12). Yet, when asked about broadband gaps, 70% (*n*=114) of rural educational leaders indicated that their districts had *some, quite a few,* or *many gaps.* Any gaps in broadband coverage meant that children in those areas could not use the internet for learning.

**Table 5**

*Broadband Reliability and Broadband Meeting Demands*

| *Scale* | *Broadband Reliability* | | *Broadband Meets Demands* | |
|---|---|---|---|---|
| | *n* | % | *n* | % |
| Excellent | 54 | 32 | 57 | 35 |
| Good | 60 | 36 | 56 | 34 |
| Average | 35 | 21 | 23 | 23 |
| Poor | 7 | 4 | 9 | 6 |
| Not Acceptable | 7 | 4 | 3 | 2 |

A multiple linear regression analysis was conducted to examine the effects of broadband variables on the overall teaching and learning status during the pandemic. The model evaluation revealed that the four broadband independent variables (reliability, meets demands, coverage, gaps) could predict rural educational leaders' satisfaction with the *Overall teaching and learning technology* during the COVID-19 pandemic. The four-predictor model accounted for 44.60% of the variance in Overall satisfaction with teaching and learning technologies during the COVID-19 pandemic, $F(4, 157) = 9.74$, $p < .05$, $R^2 = .199$ (see Table 6). These results indicate that broadband-related issues did indeed affect how rural educational leaders felt about the overall teaching and learning status during the fall of 2020.

**Table 6**

*Multiple Regression of Overall Teaching & Learning Technology Status During the Pandemic; Broadband Variables Only*

| Variable | *B* | 95% CI for *B* | | SE *B* | β |
|---|---|---|---|---|---|
| | | *LL* | *UL* | | |
| Overall Status – During | | | | | |
| Broadband Reliability | .031 | -.226 | .288 | .130 | .034 |
| Broadband Meets Demand | .007 | -.263 | .278 | .137 | .008 |
| Broadband Gaps | .183* | .012 | .355 | .087 | .220* |
| Broadband Coverage | -.257* | -4.71 | -.044 | .108 | -.242* |
| | | | | | |
| $R^2$ | .199 | | | | |
| Adjusted $R^2$ | .178 | | | | |
| *F* | 9.74* | | | | |

*Note:* CI = confidence interval; *LL* = lower limit; *UL* = lower limit; *$p$ < .001.

### *Cell Phone*

A multiple linear regression model was developed to isolate the influence of cell phone service gaps and coverage on *Overall teaching and learning status* during the pandemic. However, no significance was found for this model, $F(2, 160) = 2.55$, $p < .001$, $R^2 = .031$. Thus, rural educational leaders were less concerned about cell phone issues than broadband issues during the COVID-19 pandemic.

### Specific Teaching and Learning Technologies

To better understand the degree to which teaching and learning technologies were accessed *prior* to and *during* the pandemic, independent t-tests were used to examine specific internet technologies. The technologies examined included computers, tablets, cell phones, virtual reality, and augmented reality. Cell phone usage *prior* to and *during* were the only variables observed with statistically significant differences among the five technologies examined prior to ($M = .35$, $SD = .48$) and during ($M = .63$, $SD = .49$; $t(334) = -5.33$, $p = .000$, two-tailed).

Frequency analysis indicated that in 31% of schools and districts, cell phones were used for lessons *prior* to the pandemic, while 74% used cell phones for lessons *during* the pandemic. Since more students were using cell phones for learning, this was a crucial contributor to students' success in rural settings.

Yet, gaps in cell phone coverage were noted by rural educational leaders. Their response to the survey question regarding cell phone service coverage indicated that 76% ($n$=123) of their districts had 51% to 100% cell phone service coverage, leaving an estimated 24% ($n$=40) of their districts with coverage gaps. Surprisingly, 14% ($n$=24) of

their districts had 0% to 25% cell phone coverage (see Table 7). This level of coverage gaps in cell phone service indicates that the potential for students using phones to keep up with classwork was limited. Students in limited or no cell phone service coverage areas were bound to struggle with their learning.

**Table 7**

*Cell Phone Service Coverage*

| | Frequency | % |
|---|---|---|
| 76 - 100% coverage | 65 | 40 |
| 51 - 75% coverage | 58 | 36 |
| 26 - 50% coverage | 16 | 10 |
| 0 - 25% coverage | 24 | 14 |

## Perceived Ability to Learn Online

Rural educational leaders were also asked about their perceptions regarding the ability of students identified with IDEA (2004) disability categories to learn online. Overall, leaders rated the online learning acumen of students with disabilities as *Excellent, Good,* or *Average* (37.5%; *n*=53). In contrast, 62.4% (*n*=88) of rural educational leaders rated their perception of the online learning abilities of their students with disabilities as *Fair* or *Poor*. Clearly, rural educational leaders found that students with disabilities struggled with online learning.

A follow-up question asked rural educational leaders to rate learners with disabilities by IDEA (2004) category (see Table 8). Results indicated that students identified with orthopedic impairment (10.2%; *n*=14), speech-language impairment (7.3%; *n*=10), and autism spectrum disorder (5.1%; *n*=7) were identified as *Excellent* online learners among students with disabilities. Conversely, students identified with multiple disabilities (34.1%; *n*=47), autism spectrum disorder (33.6%; *n*=46), and emotional and behavioral disorders (32.4%; *n*=45) were recognized as students who struggle most with online learning. Note that autism spectrum disorder appeared at both ends of the online learning ability spectrum, perhaps indicating the wide variations in the severity of how this disability affects learners.

**Table 8**

*University of Northern Colorado*

| | Excellent | | Good | | Average | | Fair | | Poor | | NA | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Disability Category | n | % | n | % | n | % | n | % | n | % | n | % |
| Specific Learning Disability | 3 | 1.8 | 31 | 22.3 | 37 | 26.6 | 41 | 29.5 | 25 | 18.0 | 2 | 1.2 |
| Other Health Impairment | 2 | 1.5 | 33 | 24.1 | 46 | 33.6 | 32 | 23.4 | 16 | 11.7 | 8 | 5.8 |
| Autism Spectrum Disorder | 7 | 5.1 | 13 | 9.5 | 27 | 19.7 | 33 | 24.1 | 46 | 33.6 | 11 | 8.0 |

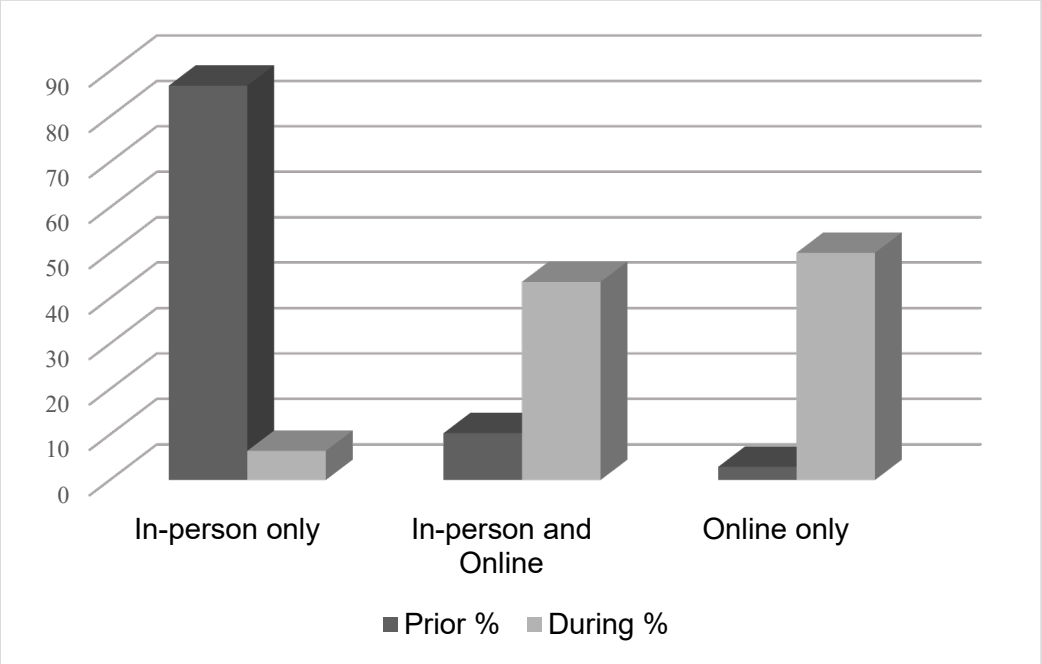
| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Emotional and Behavioral Disorders | 5 | 3.6 | 10 | 7.2 | 33 | 23.7 | 39 | 28.1 | 45 | 32.4 | 7 | 5.0 |
| Speech Language Impairment | 10 | 7.3 | 33 | 24.1 | 42 | 30.7 | 28 | 20.4 | 17 | 12.4 | 7 | 5.1 |
| Visual Impairment, including Blindness | 2 | 1.5 | 7 | 5.1 | 7 | 5.1 | 20 | 14.6 | 39 | 28.5 | 62 | 45.3 |
| Hearing Impairment | 4 | 2.9 | 20 | 14.4 | 19 | 13.7 | 25 | 18.0 | 29 | 20.9 | 42 | 30.2 |
| Deafness | 1 | 0.7 | 10 | 7.5 | 11 | 8.2 | 23 | 17.2 | 23 | 17.2 | 66 | 49.3 |
| Deaf-Blindness | 2 | 1.5 | 3 | 2.2 | 2 | 1.5 | 15 | 11.1 | 30 | 22.2 | 83 | 61.5 |
| Orthopedic Impairment | 14 | 10.2 | 19 | 13.9 | 31 | 22.6 | 12 | 8.8 | 14 | 10.2 | 47 | 34.3 |
| Intellectual Disability | 1 | 0.7 | 12 | 8.7 | 29 | 21.0 | 38 | 27.5 | 42 | 30.4 | 16 | 11.6 |
| Traumatic Brain Injury | 3 | 2.2 | 5 | 3.6 | 14 | 10.2 | 23 | 16.8 | 35 | 25.5 | 57 | 41.6 |
| Multiple Disabilities | 2 | 1.4 | 10 | 7.2 | 19 | 13.8 | 29 | 21.0 | 47 | 34.1 | 31 | 22.5 |

*Note.* NA indicates that the disability category was not represented in rural districts.

### Service Provision for Students with Disabilities

A critical element of IEPs are the related services provided for students with disabilities. Examples of related services include physical therapy, occupational therapy, audiology services, orientation and mobility services, and interpreting services. Since many brick-and-mortar schools were closed or only partially open during the COVID-19 pandemic (Young & Donovan, 2020), it was important to determine how IEP-related services were being provided. The service delivery survey question provided three options to respondents: *in-person only, in-person and online*, and *online only*. Results showed that prior to the COVID-19 pandemic, services were being provided to students with disabilities primarily in-person (86.8%), with only 2.9% being provided strictly online. During the COVID-19 pandemic, only 6.4% of students received in-person services, and 43.6% of services were provided utilizing in-person and online modalities (See Figure 1). Online-only services were reported as being provided 50% of the time *during* the COVID-19 pandemic.

**Figure 1**
*Related Services Prior and During the Pandemic*




## Discussion

The purpose of this quantitative study was to explore questions related to rural educational leaders' perceptions of the differences in access and student use of internet teaching and learning technologies in rural districts *prior* to and *during* the COVID-19 pandemic. Four salient questions were examined related to the perceptions of rural educational leaders regarding internet technology access, technical support, student online learning abilities, and provision of special education services *prior* to and *during* the COVID-19 pandemic. Students receiving special education services were required, along with their non-disabled peers, to quickly shift to online learning in the fall of 2020. Yet, it soon became apparent that many students in rural areas were at a disadvantage regarding their ability to access online instruction. Students with disabilities were at risk of falling behind while they may not have been receiving all their legally mandated support and services.

Rural areas across the U.S. have typically had poorer broadband internet access than suburban or urban areas. In the most recent broadband deployment report, the Federal Communications Commission (FCC) acknowledges the service gaps in rural schools compared to suburban and urban schools (Federal Communications Commission, 2021). The digital divide has persisted for rural communities for decades, yet it became a fundamental issue for school districts as they worked to provide meaningful instruction for students during the COVID-19 pandemic. The inequities in broadband access for rural school districts limited consistent internet access for student

instruction. Participant responses in the current study indicated a statistically significant difference in the overall teaching and learning technology status before and during the pandemic. A surprising 70% of rural education leaders indicated that there were substantial gaps in broadband coverage in their districts. The implication of the prevalence of broadband gaps is that students in areas without coverage likely had gaps in their learning, too.

Surprisingly, rural educational leaders reported being quite satisfied with their technical support during the COVID-19 pandemic. In fact, positive experiences with technical support response times contributed significantly to leaders' perceptions of the overall teaching and learning status during the COVID-19 pandemic.

We know that students have embraced the use of cell phones for their social interactions. However, the COVID-19 pandemic motivated students to turn to their cell phones for online learning, too (Owen et al., 2023). In fact, 29% of parents reported that their children likely used their cell phones for completing schoolwork (Vogels et al., 2020). Accordingly, the current study found that rural educational leaders reported a significant increase in student cell phone usage for learning, from 34.50% to 62.50%, during the COVID-19 pandemic. Yet, leaders also reported substantial gaps in cell phone coverage in their rural school districts. The implications of this discrepancy for student learning are substantial. Students living and learning in rural settings were at a distinct disadvantage when online learning became essential.

We did not know enough about *how* K-12 students with disabilities learned online prior to the COVID-19 pandemic (Averett, 2021; Kennedy & Ferdig, 2018). For instance, Vasquez and Straub (2012) examined online instruction for students with disabilities in K-12 settings. Their comprehensive review of the literature identified only six studies, of which only one described the use of synchronous technology for teaching. One reason for the dearth of representative synchronous online learning studies is that, prior to the COVID-19 pandemic, online learning options were generally self-selected. In other words, parents chose online instruction for their children with the thought that their children could learn more effectively online than in-person (Schuck & Lambert, 2020). One example was parents enrolling their children in online programs for credit recovery and dropout prevention through online schools (Cavanaugh et al., 2013). More research is required to better understand how students with disabilities learn using online technologies.

**Online Learning for Students with Disabilities**

Rural educational leaders indicated that students with identified disabilities struggled when they were required to learn using internet technologies, with some disability groups experiencing greater difficulties than others (e.g., multiple disabilities, autism spectrum disorder, and emotional and behavioral disorders). There may never be a complete school shutdown again, as there was during the 2020-2021 school year. Yet, as more teaching and learning is likely to take place online in the coming years, it will be

necessary to understand better how students with disabilities can best be supported to better learn using internet technologies. It is also important to note that studies completed with data from during the COVID-19 pandemic will not be synonymous with studies preceding or following the COVID-19 pandemic.

Complicating our understanding of how students with disabilities learn online is the fact that much of the research completed during and since the COVID-19 pandemic examined students with disabilities as a homogeneous group relative to their online learning experiences. Based on the results from the current study, there is a range of differences in student aptitude for learning virtually.

Research providing a better understanding of online learning habits for students with disabilities will be helpful. One such habit is self-regulation. Studies have shown that successful online learners with disabilities can practice self-regulation based on intrinsic and extrinsic motivation (Lambert & Schuck, 2021; Mohtar & Yunus, 2022). Yet, staying focused for many hours while learning online can be difficult for students who also struggle with brick-and-mortar classroom learning (Rice & Allen, 2016; Young & Donovan, 2020). Additional research related to specific disability categories and unique learning needs will be necessary to better understand how to best support these learner groups in their online learning efforts.

**Related Services for Students with Disabilities**

An area of substantial concern for students with disabilities during the COVID-19 pandemic lockdown and pivot to online learning was the ability of schools to provide a free and appropriate public education (FAPE) during the COVID-19 lockdown. The Individuals with Disabilities Education Act (IDEA, 2004) mandates that children with disabilities receive educational services described in students' IEPs at no cost to families. So, even when brick-and-mortar schools closed, schools were charged with meeting the legal requirements in each child's IEP. Even prior to the COVID-19 pandemic school closures, schools have not always met the requirements of the law relative to providing educational services for students with disabilities (Yell & Bateman, 2022). The COVID-19 pandemic exacerbated a problem that had already existed. School personnel struggled during the COVID-19 pandemic with fully implementing each student's IEP and providing services that meet the needs of each student with disabilities. The results from the current study indicated that most IEP-related services were provided in person prior to the COVID-19 pandemic. During the COVID-19 pandemic, rural educational leaders reported that few (6.4%) IEP-related services were being provided in person.

Nonetheless, responsibility for providing FAPE during the COVID-19 pandemic did not diminish; school districts were still responsible for implementing all elements of student IEPs as described under IDEA (U.S. Department of Education, 2020). It was acknowledged that IEP implementation and related service delivery may look different during school lockdowns, but the services were still required to provide a FAPE (Yell &

Bateman, 2022). For instance, if teachers used videos for instruction, accurate captioning or embedded sign language interpreting needed to be included. IEP meetings were held using video conferencing technologies. Accommodations and modifications were adapted to meet the restrictions of online instruction (Young & Donovan, 2020). For example, some students did not have access at home to the same assistive technology that they used in school. Young and Donovan (2020) provide the example of a student who used a Braille book at school, but the correct technology to create and write in Braille was not available at home. The larger lesson for school districts is that to provide FAPE, advance planning must take place first rather than adjusting after the fact (Rice & Pazey, 2022).

**What Has Changed Since the Pandemic?**

Not enough has changed regarding broadband internet coverage in rural areas. In fact, the FCC reported in 2021 that 14.5 million Americans still did not have access to high-speed internet, though the metrics have been improving (Federal Communications Commission, 2021). Rural internet coverage is still at only 77.4%, while urban coverage is reported at 98.5%, though the gap has been reported to have been consistently reduced since first being measured in 2016 (Federal Communications Commission, 2021). Yet, an independent analysis of FCC documents (e.g., Form 477) revealed that the digital divide between urban and rural access to broadband is still a major issue for rural users (Busby et al., 2024). In fact, Busby and colleagues (2024, para. 3) report that “at least 42 million Americans do not have access to broadband”.

In 2019, the State of the States report boldly stated that “The classroom connectivity gap is closed” (EducationSuperHighway, 2019, p.1). Yet, much progress is still required for that statement to be fully realized. The digital chasm, masquerading as a divide, still exists for millions of students nationwide. Specifically, 46.5% of students in schools nationwide do not have access to broadband at the minimum level set by the FCC (Connect K-12, 2022). In fact, only two-thirds of school districts (67%) are meeting the minimum acceptable level for bandwidth set by the FCC (Federal Communications Commission, 2021). The Connect K-12 (2022) report also highlighted that 23.5 million students learning in 4,232 districts do not have access to the internet speeds required to support digital learning tools for classrooms.

We have learned since the COVID-19 pandemic that there are gaps in the educational progress of many students that cannot be regained. The results from the National Assessment of Educational Progress (NAEP) show that for the substantial share of students who were already behind in their learning prior, the learning deficits experienced during the COVID-19 pandemic were “crippling” (Raymond, 2023, p. 1). Between 2020 and 2022, NAEP reading scores showed the largest drop since 1990; the “first ever” drop in mathematics scores was recorded (National Center for Education

Statistics, 2023b). The greatest declines in NAEP scores were recorded for lower-performing students, including those with disabilities.

The Center for Research on Education Outcomes (CREDO) predicts that students who normally experience a slower pace of learning are more likely to experience long-term learning losses that may never be recovered (Raymond, 2023). CREDO researchers estimated post-COVID-19 pandemic achievement for students at different learning levels and used the data to predict the potential academic achievement after twelve years of schooling. Their findings indicated that if only 90 days of learning loss are accounted for, just 64% of students will meet the 12th-grade learning benchmark (i.e., expected 12th-grade average knowledge). Extrapolating further, CREDO examined the results of an additional three years of instruction and intervention after 12$^{th}$ grade. Results indicated that the learning gains increased by only 7%, from 64% to 71%. In other words, COVID-19 pandemic learning losses cannot be recovered for some students even with substantially increasing instructional years.

Students with disabilities have experienced the greatest magnitude of loss compared with their non-disabled peers. The percentage of students receiving special education services to reach the 12th-grade learning benchmark, even with three additional years of learning, is predicted to be only 47% (Raymond, 2023). Students in rural settings, not accounting for disabilities, would be expected to achieve the 12$^{th}$ grade benchmark at a rate of 72% compared with their suburban peers (74%).

Rural educational leaders identified internet access and cell phone coverage gaps as substantial challenges facing students required to learn online during the COVID-19 pandemic. Not surprisingly, students in rural settings, and especially those with disabilities, struggled to not only access reliable internet and the required online learning technologies but also experienced learning loss that cannot be recovered. Since some schools already struggled to implement IEPs as written, the COVID-19 pandemic further highlighted the challenge of providing necessary services without adequate time to transition to an online platform, necessary training for staff, and reliable internet and devices. Since the COVID-19 pandemic, limited progress has been made to address the digital divide, and educators continue to look for solutions to address learning loss.

## Limitations and Future Research

The current study examined rural educational leaders' perceptions of student access to learning technologies prior to and during the COVID-19 pandemic. Leaders also shared their perceptions of the ability of students receiving special education services to learn online. This study does have several limitations. These include the surprisingly low response rate for survey respondents. We believe that educational leaders were overwhelmed by circumstances related to the COVID-19 pandemic and had little time to devote to completing surveys. Additionally, those leaders who responded were essentially self-selected rather than a random sample of participants.

Future research should more closely examine the long-term effects of the COVID-19 pandemic on the learning of students in rural settings, especially those with disabilities. A better understanding of *how* students with disabilities learn online will also help to create more equity as schools employ more digital learning tools in classrooms. Understanding how to best serve specific disability groups (e.g., multiple disabilities, autism spectrum disorder, and emotional and behavioral disorders) in online settings will also be important. Additionally, we need to better understand how to remediate long and short-term gaps in learning caused by unforeseen circumstances.

Additionally, it is clear that students receiving special education services experienced a loss of services during the pandemic. Examining the potential long-term implications of those service losses will be helpful to better provide appropriate interventions for students with disabilities and strive to reduce the effects of the COVID-19 pandemic. It will also be necessary to understand more deeply how differences in learning settings, such as rural, suburban, and urban settings, affect student outcomes, especially in unique and unexpected conditions.

## Conclusions

The purpose of this quantitative study was to explore questions related to rural educational leaders' perceptions of the differences in access to internet teaching and learning technologies for delivering instruction in rural districts *prior* to and *during* the COVID-19 pandemic and examine leaders' perceptions of the online learning potential of students with disabilities. The COVID-19 pandemic caught the educational community off-guard. School closures, lack of rural broadband infrastructure, poor rural cell phone connectivity, lack of internet-capable devices in schools, and a host of issues related to supporting students with and without disabilities caused losses in learning for many students. Progress in learning the 21st-century skills we value for student learning (e.g., collaborative learning, knowledge construction, critical thinking, problem-solving, and creative thinking) was compromised. To better prepare, equitable student opportunities must exist in every area of our country, including rural, suburban, and urban settings.

An important finding from this study was the rural educational leaders' satisfaction with technology support in their schools and districts. Having trained technology support personnel, post-COVID-19 pandemic is critical to the effective operation of schools. The use of online learning technology has increased dramatically because of the COVID-19 pandemic, and many schools are continuing to supplement their in-person instruction with these online learning resources. As the additional funding received because of the COVID-19 pandemic winds down, school districts must ensure they have plans to keep devices updated and technology departments staffed with trained support personnel.

While the shift to online learning and partial school closures that persisted throughout the 2020-2021 school year was difficult for many students and families, students with disabilities and their special education teachers and related service providers were underprepared to meet the needs of all students with IEPs. The COVID-19 pandemic brought to light the challenges of providing related services online, especially without the use of adequate online platforms to allow appropriate interaction and accommodations for students. Now that providers have lived through this experience, they can work with their educational leaders to identify those challenges as well the strategies that were effective.

The COVID-19 pandemic was an extreme example of school closure. Yet, other circumstances, including natural and man-made disasters, will continue to interrupt normal access to brick-and-mortar schools. We need to be prepared to ensure that students do not lose valuable learning opportunities during any long—or short-term school closings.

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*Theory & Practice in Rural Education (TPRE)*
2024, Vol. 14, No. 1, Pp. 30-48
Copyright 2024 ISSN:2641-7170
https://doi.org/10.3776/tpre.2024.v14n1p30-48

# The Influence of COVID-19 on Pennsylvania Rural Schools' Due Process Hearing Decisions

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During the COVID-19 pandemic, rural Pennsylvania Local Education Agencies (LEAs) were found to have failed to properly offer special education services in alignment with the Individuals with Disabilities Education Act (IDEA). The Commonwealth of Pennsylvania ranks among the most litigated states in disputes over the proper facilitation of services as mandated by IDEA. Despite this high volume of litigation, there was no analysis of how being defined as a rural LEA influenced due process hearing officer decisions after the COVID-19 pandemic. The current study addresses this research gap by reviewing special education due process hearing activity for rural LEAs and comparing activity for the two years before and after the COVID-19 pandemic-mandated office closures. Findings offer guidance on problematic practices by analyzing the relationship between the pandemic and hearing officer ruling outcome, activity frequency before and after the pandemic, and remedies owed by rural LEAs from post-COVID decisions.

***Keywords*: *Keywords*: Special Education Due Process Hearings, Rural Local Education Agencies, COVID-19**

For the 2020–2021 school year, over 307,000 students residing in the Commonwealth of Pennsylvania qualified for special education or related services under the Individuals with Disabilities Education Act (IDEA). This number equates to roughly 18% of the Pennsylvania students enrolled in local public schools (Pennsylvania School Board Association, 2022). IDEA is a federal legislation that makes free and appropriate public education (FAPE) available for students with disabilities by facilitating and procuring early intervention, special education, and other rehabilitative services (United States Department of Education, 2023). Under IDEA, six major principles are established for students with disabilities: the right to a FAPE, appropriate evaluations in all suspected forms of disability, proper development and facilitation of Individualized Education Programs (IEPs), an education in a classroom setting that is the least restrictive environment (LRE), meaningful participation for students and families in the creation and facilitation of specialized services, and following procedural compliances as mandated by the legislation (Mississippi Parent Training and Information Center, 2023).

If an individual feels that their rights protected under IDEA have been violated, they may take legal action under the constitutional provisions of due process. The term for

such a litigation method is a special education due process hearing. A special education due process hearing can best be described as follows:

> Due process hearings are similar to trials, with the Hearing Officer presiding and acting as a judge. An attorney will represent the educational agency. An attorney may also represent the parent or may proceed without counsel. Witnesses are questioned and cross-examined, and evidence is admitted into the record for the Hearing Officer's consideration. After the hearing, the Hearing Officer issues a written decision, which is a legally enforceable document setting forth the legal obligations of all the parties. (Office for Dispute Resolution, 2023a, para. 3).

The 2021–2022 school year saw the Commonwealth of Pennsylvania among the ten most litigated states in disputes over the proper facilitation of services as mandated by IDEA (Center for Appropriate Dispute Resolution in Special Education, 2023). The Office for Dispute Resolution (ODR), the facilitator of special education due process hearings for the Pennsylvania Department of Education, stated that prior to the COVID-19 pandemic-mandated office closures, Pennsylvania was on track to surpass its record for special education due process complaints during the 2020–2021 school year (2021). Despite 18% of Pennsylvania Local Education Agencies (LEAs) identifying as rural (National Center for Education Statistics, 2018), there has been limited exploration of how a school's Urban/Rural status could influence special education due process hearing outcomes. This study aimed to identify how rural Pennsylvania LEAs involved in special education due process hearings were affected by the COVID-19 Pandemic. By reviewing the remedies owed by rural LEAs since the COVID-19 Pandemic and exploring whether a relationship exists between the pandemic and hearing officer ruling outcomes, changes can be made in any identified actions of non-compliance with the law. The promotion of findings can shape positive changes for future educational practices.

## Literature Review

One out of seven American students in rural school districts qualify for special education services under IDEA (McCabe & Ruppar, 2023; Showalter et al., 2019). Despite IDEA being a law that is meant to protect all American students, regardless of their school's population size (Turnage, 2020), the experiences of rural students with disabilities are significantly different than those of their peers receiving an education in more urban settings. Academically, students with disabilities attending rural schools were found to have lower reading scores and a higher number of out-of-school suspensions than their suburban and city peers (MacSuga-Gage et al., 2022). Smaller school populations have rural LEAs hiring fewer teachers than more urban school districts. Rural LEAs have fewer staff available to teach special education programming compared to more populated school settings (Karadimou, 2022). Staffing shortages have led to limitations in the allotment of Advanced Placement (AP) courses, Gifted and Talented programs, and after-school activities for students enrolled in rural schools (Drescher &

Torrance, 2022; Gutierrez & Torrones, 2023). While evidence suggests rural youth are graduating at similar rates to their suburban and urban peers of the same age, studies show that fewer pursue college as an option upon graduation (Kryst et al., 2018). Students with disabilities attending rural schools have been found to have lower rates of college enrollment than their peers attending urban and suburban high schools. Upon graduation, this same population had lower employment rates, limited job opportunities, and fewer options for vocational rehabilitation services (Erickson et al., 2018).

Despite being identified more often with developmental disabilities than their suburban and urban peers, rural students with disabilities often are not initially offered appropriate educational services when entering the primary school setting (Zablotsky & Black, 2020). Other identified violations of IDEA that occur in rural school districts include improper training of staff on identifying students with disabilities, not offering families an opportunity to have meaningful participation in the process of creating specialized services, educating students in inappropriate classroom settings (Turnage, 2020), educational programming with improper goals and services (Hott et al., 2021), and non-certified educators teaching special education classes due to staffing shortages (Karadimou, 2022).

## IDEA Violations Occurring in Pennsylvania Rural Schools During the COVID-19 Pandemic

During the COVID-19 pandemic, rural Pennsylvania students with disabilities were identified as among the most vulnerable populations to not receive a proper education due to financial constraints faced by their schools (Schafft et al., 2022). Subsequent research now indicates that during the mandated school closures, rural Pennsylvania students with disabilities did not receive appropriate educational, rehabilitative, and health services as mandated by IDEA. Listed reasons for rural Pennsylvania LEAs not complying with the law included limited internet access, staffing shortages, and inadequate staff training on appropriately facilitating specialized services in an online setting (Pennsylvania Department of Education, 2021).

Before the COVID-19 pandemic, rural school principals and superintendents struggled to integrate technology into their schools. Budget issues and limited internet provisions in the local community caused rural Pennsylvania LEAs to have less access to technology than suburban and urban school districts (Kotok & Kryst, 2017). During the COVID-19 pandemic, this trend did not cease to exist. As such, insufficient technology would lead to rural Pennsylvania schools violating IDEA. Without proper internet service, rural Pennsylvania families could not attend IEP meetings, receive communication about their educational rights, or interact with their student's teachers. In rural schools, classroom modifications, mental health supports, and rehabilitative services were inaccessible due to lack of appropriate technological resources (LeTendre et al., 2023).

When defining the qualifications of a special education teacher, IDEA specifies that the educator must be certified to teach in the state where they provide services (Sec 300. 156). Before the COVID-19 pandemic, a 2019 study indicated that rural Pennsylvania school districts lacked certified special education teachers (Fuller & Pendola, 2020). During the COVID-19 pandemic, the lack of trained special education teachers in rural Pennsylvania schools was a continuing issue. Identified staffing shortages included a lack of special education teachers, counselors, and social workers in rural Pennsylvania LEAs *(*Shafft et al., 2022). Due to staffing shortages and insufficient training in virtual instruction methodologies, rural Pennsylvania special education teachers reported not providing appropriate instruction to their students as mandated by IDEA. Special education teachers in rural Pennsylvania reported that their paperwork was overwhelming, and they struggled to meet deadlines of compliance monitoring as necessary by IDEA (Shafft et al., 2022).

During the COVID-19 pandemic, rural Pennsylvania schools violated various principles of IDEA due to limitations in technology and staffing. As IDEA is federal legislation, all public schools must follow the statutes and mandates of the law in the United States of America. If an individual feels their rights under IDEA have been violated, they may take legal action through the procedural safeguard of due process. Such a litigation method is known as a special education due process hearing. A special education due process hearing is similar to a civil trial. Overseen by an impartial hearing officer, this method of litigation involves a student and an educational institution. The student may use legal counsel or represent themselves pro se, while the educational institution always uses an attorney. Like civil court cases, parties may call on witnesses and present evidence to make their case. The appointed hearing officer reviews all of the presented materials and then provides a judgment on the disputed matter through a written decision. The decision offers guidance and remedies for any owed by the parties involved. As a written legal document, the decision must be followed by all parties involved in the impartial hearing (Office for Dispute Resolution, 2023a).

## Special Education Due Process Hearings Occurring in Pennsylvania

Before the COVID-19 pandemic*,* the Commonwealth of Pennsylvania was identified as a state with many special education legal disputes (Blackwell & Gomez, 2019). In an analysis of national special education due process hearing activity for the school years 2012–2018, Pennsylvania ranked among the top ten most litigious states (Fairbanks et al., 2021). A review of 502 Pennsylvania special education due process hearings between February 2008 and September 2013 determined that in close to 75% of hearings, families chose to be represented by a lawyer. The school district was victorious in 252 of the hearings (Hoagland-Hanson, 2014). For the 2018–2019 fiscal year, Pennsylvania hearing officers issued 58 decisions. Of these decisions, 18 had

rulings entirely in favor of the LEA and 26 partial favorability. For the remaining 14 hearings, the student and their family prevailed (Office for Dispute Resolution, 2020).

In a multi-state sampling of due process complaints for the 2016–2017 school year, rural LEAs were identified as less likely to be involved in legal disputes over IDEA than suburban and urban schools. According to Nowicki (2019), there were three possible reasons for this phenomenon: less attorney availability in small towns, fewer educational opportunities, and parents fearing backlash from their community for suing the local school. When accounting for only the Pennsylvania-based sample, rural LEAs had fewer due process complaints, state complaints, and mediation requests than urban and suburban schools involved in the study.

Under IDEA, there is a two-year statute of limitations for raising complaints relating to improper implementations of special education services under the legislation (20 U.S.C. Sec. 1415(f)(3)(C)). With the prolonged nature of organizing and conducting special education due process hearings, some scholars believe that hearings relating to issues experienced during the COVID-19 pandemic remain entirely conducted (Zirkel, 2023). According to legal scholars, the filing date for alleged violations due to COVID-19 closures can be as late as March 18, 2022 since the pandemic-induced closing occurred on March 18, 2020 (Spar, 2021). With this date being so recent, there was little data available for analyzing trends in special education due process hearings after the COVID-19 pandemic involving rural schools.

Nationally, sampling on trends from special education due process hearing decisions between March 2020 and August 2020 showed fewer hearings occurring during this period when compared with the previous school year (Zirkel & Jones, 2020). Similar results were found when equating for the 2020–2021 school year (Zirkel, 2021). As of 2023, failing to implement a FAPE was the most common issue raised by students and their families in special education due process hearings after the COVID-19 pandemic. For this raised complaint category, hearing officers are more likely to rule against schools in their published decisions (Zirkel, 2023).

The Office for Dispute Resolution facilitates special education due process hearings for the Pennsylvania Department of Education and does not identify the urbanicity of LEAs involved in special education due process hearings. The closest information ODR's fiscal reporting offers is based on geography. An example can be seen in the following statement: "For the past twenty years, due process activity has been predominantly centered in the southeastern part of the Commonwealth, and FY 2022 is no exception despite the intervening pandemic shutdown in March 2020" (Office for Dispute Resolution, 2023c, p. 45).

Before closing their offices due to the COVID-19 pandemic, ODR reported that by March 2020, Pennsylvania was on track to surpass its yearly record for special education

due process complaints (2021). When discussing Pennsylvania hearings after the COVID-19 pandemic, ODR stated that "the statistics from those years are outliers and difficult to reconcile within a five-year comparison of ODR services" (2023c, p. 5). What remains to be seen is the influence of the COVID-19 pandemic on rural LEAs involved in special education due process hearings in the Commonwealth of Pennsylvania.

## Research Gap

Throughout the COVID-19 pandemic, rural Pennsylvania LEAs struggled to follow the IDEA. Various principles of the law were violated due to the limited availability of appropriate staff and technology. What remained to be identified was whether or not these violations were subsequently being raised in special education due process hearings. According to the Office of Special Education and Rehabilitative Services, when reviewing hearing officer decisions for research, the information can only be analyzed to identify training needs for LEAs, State Education Agencies, and hearing officers (Zirkel & Vander Ploeg, 2019). With nearly 20% of LEAs in Pennsylvania being defined as rural, an analysis of how this status influences special education due process hearing decisions has a justification. Legal scholars indicate that school districts involved in special education due process hearings find the price of litigation a costly burden (Wettach & Sanders, 2020). By reviewing the activity of rural LEAs from before and after the pandemic, areas of problematic practice could be identified if they exist. Identifying these issues can help save schools the financial burden of legal fees.

Prior to the pandemic, rural Pennsylvania LEAs were determined to be less likely to be involved in special education due process hearings than urban and suburban schools. After reviewing the literature, it was evident that rural Pennsylvania schools struggled to implement proper services for students as mandated by IDEA during the COVID-19 pandemic. What was not known was whether or not these violations were being raised in special education due process hearings. In order to address this research gap, the following questions were proposed:

1. Were rural Pennsylvania LEAs involved in more hearings before or after the COVID-19 pandemic?
2. Can a significant relationship be established between hearing officer ruling outcomes and the COVID-19 pandemic for rural Pennsylvania LEAs?
3. What remedies are rural Pennsylvania LEAs being held responsible for providing students since the COVID-19 pandemic?

## Methodology

The conceptual framework of this study builds upon a similar analysis technique as instituted by Blackwell & Blackwell (2015), Schanding et al. (2017), and Rush (2022). In the works of these scholars, a single state's due process hearing officer decisions were reviewed for a specific timeframe. Ex post facto data collection methodologies were

implemented in all three of these studies. Decisions from the past were analyzed for specific variables such as student demographics, legal representation, or raised issues. Upon reviewing selected variables across all hearings, analysis techniques were conducted to determine whether patterns could be established.

## Research Design

Unlike other research methods that incorporate experimentation on subjects, this project required a non-experimental design. To answer the proposed research question, a methodology needed to be implemented that allowed for the retrospective analysis of events that had already occurred, specifically, hearing officer decisions before and after the COVID-19 pandemic in the Commonwealth of Pennsylvania. For this reason, a quasi-experimental ex post facto research design was implemented. This study identified an event that had already occurred (i.e., the special education hearing), and a dependent variable (i.e., ruling outcome, COVID-19 pandemic*,* Urban/Rural status, remedy owed) was proposed. The researcher then reviewed the event to determine any effect the event had on the analyzed variable (Sharma, 2019).

## Data Source, Participants, and Setting

The Office for Dispute Resolution (ODR) facilitates all special education due process hearing activity for the Commonwealth of Pennsylvania. On their website is a database that houses all written hearing officer decisions published since 2006. Before ODR makes hearing officer decisions available for public review, they redact all information that could be used to identify the students and their families involved. The following statement on the process can be found on their website: "Since 2006, the Office for Dispute Resolution has made hearing officer decisions available to the public on this website. Before these decisions are posted, all identifiable student information is removed to maintain confidentiality" (Office of Dispute Resolution, 2023b, para. 1).

The data source for this study was all published due process hearing officer decisions uploaded between March 16, 2018 and March 15, 2022. The participants of this study were all of the parties involved in the special education due process hearing decisions being analyzed. This included but was not limited to students and their families, expert witnesses, hearing officers, rural LEAs, and legal counsel. The research setting was the Commonwealth of Pennsylvania between March 16, 2018 and March 15, 2022.

## Data Collection and Analysis

Since no experimentation occurred on subjects, and all identifiable information of hearing the publisher of the data source had previously redacted participants, there was no need for an Institutional Review Board (IRB) approval before incorporating the data collection and analysis in this study. The first step of data collection procedures required the researcher to go to the ODR website and download all hearing officer decisions

published between March 16, 2018 and March 15, 2022. There were 347 publications available for download from the database under this filtration method. Upon reviewing the publications, there were 24 instances in which duplicates of the same publication had been uploaded. These 24 publications were removed, leaving a final population of 323 hearing officer decisions for review.

The second step was to identify the LEA involved in the hearing. Any LEAs not defined as rural by the Pennsylvania Department of Education were removed from the study. Of the 323 reviewed decisions, 28 involved rural Pennsylvania LEAs. Once only decisions involving rural schools were left, they were grouped into pre- and post-COVID samples. Each decision was then reviewed for its ruling outcome and any remedies owed in the hearing officer's subsequent ruling.

In order to answer the first research question, comparisons of the pre-COVID and post-COVID samples were made to identify which group had more activity. For the second research question, a chi-square test was used to determine if a relationship of significance could be established between the attributed hearing officer ruling outcomes for the rural LEAs being made before or after the COVID-19 pandemic. Chi-square tests were performed to determine if changes in observations were due to chance or based on the incorporation of variables for this study. The incorporated variable was the COVID-19 pandemic, tested against the ruling outcomes of all rural LEAs involved in special education due process hearings. After performing the chi-square test, all pre-COVID decisions were removed, and only the post-COVID sample was reviewed for remedies owed. These identified remedies were then used to answer the third research question, which sought to determine what relief is owed by rural LEAs involved in post-COVID Pennsylvania special education due process hearings.

## Defining Variables

### *COVID-19 Groupings*

Hearing officer decisions uploaded within the two full years before March 16, 2020, were named as the pre-COVID sample, and those from the two years after were named as the post-COVID sample. According to legal scholars, the date of filing for alleged violations due to COVID-19 closures can be as late as March 2022 since pandemic-induced closing occurred in March 2020, and there is a two-year statute of limitations under IDEA for raised issues in a special education due process hearing (Spar, 2022). In its fiscal reports, ODR lists March 16, 2020 as the official date the COVID-19 pandemic forced its offices to shut down in-person services (2021). Since this data can be referenced and cited in numerous documents uploaded by the data source for this study, it was determined that it would serve as the cut-off point for differentiating hearings occurring before and after the COVID-19 pandemic.

### *Rural Status*

The Pennsylvania Department of Education's website lists all LEAs by Urban/Rural classification (2023). This classification uses a system incorporated by the National Center for Education Statistics (NCES). In this system, LEAs can be put into four primary categories: city, suburban, township, or rural. Rural LEAs are then divided into three subtypes: fringe, distant, and remote (Geverdt, 2019). An LEA is listed as involved in the 323 hearing officer decisions analyzed in this study. To be defined as rural, the participating school needed to be listed on the Pennsylvania Department of Education's list of rural LEAs as found in the Excel spreadsheet provided on the webpage relating to School Locale.

### *Hearing Officer Ruling Outcomes*

ODR acknowledges there is difficulty in measuring hearing officer ruling outcomes. Their fiscal reports acknowledge that the calculation is not a perfect metric; the hearing officer must use their best understanding to decide whether the decision supports the parent or the LEA (Office for Dispute Resolution, 2023c). To create a more sound calculation of this metric, the present study utilized a five-point scale similar to that incorporated by Skidmore & Zirkel (2015). In this scale, the choices were entirely in favor of the LEA, mostly in favor of the LEA, partly in favor of both parties, mainly the student, and entirely in favor of the student.

### *Owed Remedies*

At the end of all hearing officer decisions, there is a ruling. In their written decision, a hearing officer will sometimes grant remedies as forms of relief that the LEA is responsible for providing to a student for not following the law. Three common forms of remedy that schools can be held accountable for upholding as a part of a hearing officer's final judgment are Independent Educational Evaluations (IEEs), compensatory education, and financial reimbursements (Hoagland-Hanson, 2014). In a ruling, multiple types of IEEs can be ordered, and financial reimbursements can be owed as forms of relief. When defining forms of remedy owed by rural LEAs, each form was counted once in this study. For instance, in a decision, an LEA could be responsible for reimbursing a student for attorney fees and school tuition. Similarly, a school could have to fund an assistive technology evaluation and a Functional Behavior Assessment (FBA). Further, an LEA could be responsible for one form of requested reimbursement, not another, and likewise for an IEE.

An LEA was defined as owing an IEE as a remedy when the hearing officer ordered at least one type of assessment or evaluation to be conducted by a qualified examiner who is not employed or affiliated with the involved LEA but paid for at the public's expense. An LEA was defined as owing a reimbursement any time they were ordered to offer a financial remedy for a previously purchased service by a student. This could

include anything from tuition, attorney fees, or even an independent evaluation paid for by the student and their family before the hearing. An LEA was defined as owing compensatory education to a student as a form of remedy any time a specific hourly allotment of owed educational services was mentioned. Compensatory education is not a reimbursement of finance for previous services nor a granting of monetary relief. Instead, it is compensation for time missed by a student and will only be notated if mentioned explicitly by the hearing officer as a part of their ruling.

## Results

Three research questions were presented in this study. All three questions related to rural LEAs involved in Pennsylvania special education due process hearings. The first question attempted to determine whether these LEAs were involved in hearings more frequently before or after the COVID-19 pandemic. The second question sought to establish whether a relationship of significance could be found between the COVID-19 pandemic and hearing officer ruling outcomes for these LEAs. The final question examined decisions involving LEAs published for the two years after the COVID-19 pandemic closure date and identified what remedies they were responsible for providing as a form of relief.

Table 1 displays a frequency distribution of all types of Pennsylvania LEAs involved in special education due process hearing activity before and after the COVID-19 andemic. It should be noted that only one hearing involved an LEA that could not be identified by the Pennsylvania Department of Education Urban/Rural classification listing. For this reason, it was given a label of Unknown. Of the 323 reviewed hearing officer decisions, 181 were defined as being pre-COVID decisions. The remaining 142 hearings were defined as post-COVID.

**Table 1**

*Pennsylvania LEAs Special Education Due Process Hearing Activity before and after COVID-19 (n=323)*

| LEA Type | Before COVID | After COVID |
|---|---|---|
| Suburban | 124 | 96 |
| City | 36 | 29 |
| Rural | 16 | 12 |
| Township | 4 | 5 |
| Unknown | 1 | 0 |
| Total | 181 | 142 |

The first research question examined whether there were more appearances by rural LEAs before or after the COVID-19 pandemic. Within this study, 28 decisions involved LEAs identified as rural. The pre-COVID group 16 involved a LEA that could be defined as rural. For the post-COVID group, 12 could be identified as rural. This indicates that for the two years before the COVID-19-induced office closures, there was more activity by rural LEAs in special education due process hearings than in the two years after.

Table 2 shows a distribution of the 28 decisions involving rural Pennsylvania LEAs by hearing officer ruling outcome and COVID-19 groupings. Of the 16 pre-COVID decisions, six were in part favorability of both parties, and ten were in full favorability of the LEA. For the 12 decisions occurring in the post-COVID timeframe, six were in full favorability of the student, one was in partial favorability of both parties, two were mostly in favor of the LEA, and three were entirely in favor of the LEA. The second research question sought to determine if a relationship of significance could be established between the COVID-19 pandemic and the hearing officer ruling outcome. When reviewing the chi-square test results, the *X2* value was 15.077 with a *p-value* of 0.002. In order to establish that there was no relationship of significance between the ruling outcome and the COVID-19 Pandemic, the p-value needs to be greater than .05. Since the p-value was less than .05, the null hypothesis that there is no significant relationship between outcome*s* and the COVID-19 Pandemic must be rejected. This, in turn, implies that a significant relationship can be established between hearing officers ruling in favor of students and their families after the COVID-19 pandemic.

**Table 2**

*Rural Pennsylvania LEAs' Special Education Ruling Outcomes before and after COVID-19 (n=28)*

| Ruling Outcome | Before COVID | After COVID |
|---|---|---|
| Fully Student | 0 | 6 |
| Mostly Student | 0 | 0 |
| In Part Both | 6 | 1 |
| Mostly LEA | 0 | 2 |
| Fully LEA | 10 | 3 |
| Total | 16 | 12 |

*Chi-Squared Tests*

| | Value | *Df* | *P* |
|---|---|---|---|
| $X^2$ | 15.077 | 3 | 0.002 |

*Chi-Squared Tests*

| | Value | *Df* | *P* |
|---|---|---|---|
| *N* | 28 | | |

The third research question explored what, if any, remedies were owed by rural LEAs involved in post-COVID decisions. Of the 28 decisions involving rural LEAs, 12 occurred after the COVID-19 pandemic closure date. Table 3 shows a distribution of forms of remedy owed by the LEAs involved in these disputes. Three decisions involved a form of reimbursement being owed by schools to students—and four decisions involved at least one form of IEE requested by students and their families. The request was granted in two of these four decisions, and it was rejected in the other two. Seven decisions involved requests for Compensatory Education. In six decisions, schools owed Compensatory Education to students, and the request was rejected in one.

**Table 3**

*Remedies Requested by Families Involved in post-COVID Hearings with Rural LEAs*

| Remedy Request | Granted | Not Granted |
|---|---|---|
| IEE | 2 | 2 |
| Comp ED | 6 | 1 |
| Reimbursement | 3 | 0 |

## Discussion

When accounting for the Pennsylvania LEAs with at least one special education due process complaint for the 2017–2018 school year, rural school districts only accounted for 19.3% of the state's activity. Regarding frequency of complaint activity, suburban schools had the most, followed by city and then rural (Nowicki, 2019). In the present study, a similar trend occurred. For the 323 analyzed hearing officer decisions, suburban schools had the highest frequency of appearance both before and after the COVID-19 pandemic*,* followed by city and rural LEAs, respectively. Of the 323 reviewed hearing officer decisions, 181 were defined as being pre-COVID decisions, and the remaining 142 hearings were defined as post-COVID. These results are similar to those reported by Zirkel and Jones (2020) and Zirkel (2021), whose multi-state analysis found fewer hearings occurring after the COVID-19 pandemic than those occurring before.

### Remedies, Relationships, and Relief

While some scholars said that the due process hearings were relatively low during the pandemic, others believe that parents are taking the time to gather evidence and

obtain counsel (Mitchell, 2020). When reviewing the literature, rural families are involved in fewer special education due process hearings than their suburban and urban peers because of the lack of available legal counsel in small communities (Nowicki, 2019). The Pennsylvania Department of Education reported that rural communities were among the most vulnerable to poor educational practices during the COVID-19 pandemic due to their lack of internet availability (Pennsylvania Department of Education, 2021). During the COVID-19 pandemic-induced office closures, ODR offered their services virtually. Of the 323 analyzed hearings, 28 decisions involved rural LEAs. Sixteen of these decisions were published before the COVID-19 pandemic and 12 after. A possible reason that rural LEAs had less activity after the COVID-19 pandemic may be that they could not secure the necessary resources needed to partake in litigation in a virtual setting.

Five different hearing officer ruling outcomes could be attributed to a decision in this study. These ruling outcomes included full favorability for the LEA, mostly in favor of the LEA, partial favorability for both parties, full favorability for the student and their family, and mostly in favor of the student and their family. In the pre-COVID sample, ten had full favorability of the LEAs, and the remaining six had partial favorability of both parties. In the post-COVID sample, six were in complete favor of the student, one was in partial favor of both parties, two were mostly in favor of the LEA, and three were entirely in favor of the LEA. Based on these results, a significant relationship could be established between ruling favorability for students and the post-COVID timeframe. Based on these results, an implication can be made that in post-COVID litigation, rural LEAs have a higher likelihood of being found in non-compliance with IDEA.

With the unforeseen circumstances of the COVID-19 pandemic, the United States Department of Education realized that many students receiving special education services would not be getting all the support they qualified for under IDEA. For this reason, in their Return to School Roadmap, they clarified that compensatory education would likely be a remedy among students who qualified for special education services but did not receive them due to the pandemic (United States Department of Education, 2021). These services were redefined as "recovery services," it was determined that to mitigate the need for litigation, school officials were to look at previous data and review IEPs to understand and be mindful of lost educational benefits during the pandemic. Remedies were owed in several of the 12 post-COVID decisions. Analyzed remedies included but were not limited to IEEs, reimbursement, and compensatory education. Three decisions involved a form of reimbursement being owed by schools to students. In two decisions, an IEE was owed by the LEA. Finally, in six decisions, compensatory education was a form of relief owed by a rural LEA.

## Recommendations for Future Research

One limitation of this study was defining pre- and post-COVID samples from uploaded decisions related to hearings before publication. For this reason, while a

decision may have been published on March 16, 2020, the hearing itself was occurring in a prior timeframe. While this is a small detail, it should still be noted. Another similar issue was the March 16, 2020 date. Realistically, COVID-19 was a problem before this date. The offices did not close, nor did the pandemic magically occur in one day. All these events were happening over extended periods. For this reason, the date is a limitation that should be noted. Future research should establish a clear and precise date of when the COVID-19 pandemic began.

Another limitation was in the remedies owed. The methodology states that several IEEs could be ordered in a single decision. Furthermore, a school could be ordered to pay for one, but not another. A recommendation for future research would be analyzing the hearings from the perspective of remedies. In this data collection, forms of IEE and reimbursement forms could be listed, and each could be noted. From this information, the LEAs can identify what specific evaluative practices they fail to conduct and the forms of financial recoupment they are responsible for paying.

Based on the results, it is clear that COVID-19 is shaping hearing officer ruling outcomes. While there have been fewer appearances by rural LEAs, when they do appear, they are not faring well in hearings. For this reason, future research should begin identifying specific acts of noncompliance with IDEA. By identifying specific issues, training can be conducted to help staff better know how to follow the law correctly. This, in turn, can keep the LEAs out of court and save money. More importantly, the students the law is meant to protect and serve will receive the education they are promised.

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*Theory & Practice in Rural Education (TPRE)*
2024, Vol. 14, No. 1, Pp. 49-72
Copyright 2024 ISSN:2641-7170
https://doi.org/10.3776/tpre.2024.v14n1p49-72

# Hope Mediates the Relationship Between Childhood Adversity and Academic Resilience Among Appalachian Young Adults

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The impact of adverse childhood experiences (ACEs) on health and academic outcomes is a well-established area of research since Felitti et al.'s (1998) seminal work. However, there is a gap in our understanding of the interactions of positive supports that promote academic resilience (AR) among rural young adults who have experienced ACEs. This cross-sectional, moderated mediation study aimed to fill this gap by exploring the factors predicting AR among rural Appalachia young adults. We confirmed the negative relationship between ACEs and AR and tested the degree to which hope and perceived social support (PSS) interact to influence that relationship. The study revealed the mediating role of hope but did not support the proposed role of PSS in moderating the relationship between ACEs and hope. We discuss this finding in the context of other research and provide recommendations for K12 educational leaders and future research.

***Keywords*: *a*ppalachia, adverse childhood experiences (ACEs), perceived social support, academic resilience, trauma, hope, rural**

Students' resilience in educational pursuits depends on various individual, family, school, and community attributes and resources (Holdsworth et al., 2018; Johnson, 2008). Rural communities may find access to jobs and other community resources challenging, while rural schools may find difficulties meeting all students' educational needs (Frankland, 2021).

Chronic poverty results in children experiencing stress and trauma that can interfere with their overall well-being, including their academic growth and development. This reality is true in rural Appalachia, just as in other contexts. Frankland (2021) documented the need for more research on trauma-informed practices, including social-emotional learning in rural schools. In response to Frankland's call, we explored how social support and hope interact to mediate the relationship between adversity and academic resilience.

While exposure to adversity (or Adverse Childhood Experiences, ACEs), including extreme poverty, can be detrimental, some youth thrive. Moreover, though chronic poverty is a risk factor, Werner (1989) noted, “even in the most discordant and impoverished homes, and beset by physical handicaps, some children appear to develop stable and healthy personalities, and display a remarkable degree of resilience in the face of life’s adversities” (p. 72). Over 30 years after Werner’s observation, some persistent questions remain. First, what allows one individual to thrive in the face of life’s adversities? And second, what can schools do to increase the chance of an individual displaying resilience in the face of adversity?

Supportive and protective elements that help children and young adults overcome adversity (Werner, 1989) appear critical to developing resilience. The greater the number and severity of ACEs in a child’s life, the more protective factors they were likely to need to support continued resilience (Werner, 1989). In rural communities, children may have extra protective support from sources such as a faith community and extended family support (e.g., grandparents) (DeFrain, 2014; Keller et al., 2023). Keller et al. (2023) found that grandparents’ religiosity and social support were protective factors for their grandchildren they were rearing. In school settings, youth can experience protective factors such as social support (Arincorayan et al., 2017; Baxter et al., 2017; Fry-Geier & Hellman, 2017; Munoz, Quinton, et al., 2018; Sulimani-Aidan et al., 2018; Werner, 1989) that result in positive outcomes such as increased hope levels (Grund & Brock, 2019; Hellman, Robinson-Keilig, et al., 2018; Munoz, Pearson, et al., 2018; Snyder, 2002; Snyder et al., 2003; Sulimani-Aidan et al., 2018).

Previous research has explored the relationship between adverse childhood events, hope, social support, and resilience, but it has been limited to selected populations and has not included the rural context, such as in Appalachia (Baxter et al., 2017; Fry-Geier & Hellman, 2017; Hellman, Robinson-Keilig, et al., 2018; Munoz, Pearson, et al., 2018; Munoz, Quinton, et al., 2018; Sulimani-Aidan et al., 2018). Munoz, Quinton, et al.. (2018) called for research with diverse samples, and developing the academic resilience scale (Cassidy, 2016) suggested an opportunity to explore the relationship of supportive factors with domain-specific academic resilience. This cross-sectional quantitative study aimed to examine the relationship of adversity, hope, and perceived social support on academic resilience in the lives of emerging adults in North and Central Appalachia.

## Review of Literature

To provide a background for this study, we briefly review the origins and recent research on academic resilience, Appalachia, adverse childhood experiences, rural poverty, hope, and social support. Beginning with the outcome variable, academic resilience, we define and summarize antecedents and outcomes, highlighting relationships with the other constructs under consideration.

## Academic Resilience

Scholars define resilience in various ways (Hunsu et al., 2022), but most definitions refer to positive adaptation to adversity (Tudor & Spray, 2017), commonly called the ability to bounce back. Several scholars have argued for context-specific measures of resilience (Cassidy, 2016; Riley & Masten, 2005; Tudor & Spray, 2017), suggesting that adversities and positive adaptation will look different, at least behaviorally, in other contexts. Resilience may be domain-specific, similar to self-efficacy (Bandura et al., 1999). Another area for improvement that some have noted is the need for direct measures of resilience with most scales instead of measuring protective and risk factors (Lee et al., 2013).

Wang et al. (1994) defined academic (educational) resilience (AR) as "the heightened likelihood of success in school and other life accomplishments despite environmental adversities brought about by early traits, conditions, and experiences" (p. 46). Martin and Marsh (2009) distinguished between academic buoyancy (AB) and resilience, with AB being the ability of students to persist through the inevitable ups and downs of formal education. They suggest AR is persistence despite more severe stressors that are, more strictly speaking, adversities or 'major assaults' on developmental processes" (p.355). Hunsu et al. (2022) describe the research on academic resilience as "focused on how students who experience severe adversities (e.g., homelessness, parental divorce, etc.) overcome such adversities and go on to succeed in school" (p. 356).

Academic resilience is the ability to overcome adversity that might threaten educational development (Cassidy, 2016). Resilient students persist and achieve academic success despite facing one or more risk factors, including school-specific difficulties in learning and mastering concepts and related relationship challenges or accessing necessary resources (Yavuz & Kutlu, 2016). Cassidy (2016) developed and validated the academic resilience scale (ARS-30) with university students in the UK to include three dimensions: persistence, reflecting, adaptive-help-seeking, and negative affect and emotional response. Interestingly, Hunsu et al. (2022) found evidence supporting the multi-dimensionality of the ARS-30, arguing against its use to measure AR as a single dimension.

Regarding antecedents and components of AR, in a longitudinal qualitative study with Australian school children, Johnson (2008) found that students attributed their AR to teacher-student interactions such as listening, being available, and explaining complex concepts well. Holdsworth et al. (2018), in their qualitative exploration of college students' perceptions of resilience, found that building social networks, perspective development through reflection and goal setting, and well-being (both physical and mental health) contributed to resilience. Yavuz and Kutlu (2016) identified cognitive flexibility as an antecedent to academic resilience. Several studies have linked academic resilience conceptually and empirically to persistence and positive outcomes in formal education

(Ayala & Manzano, 2018; Cassidy, 2016). Rudd et al. (2021) systematically reviewed the AR quantitative research. They found AR positively associated with achievement as an outcome and with various protective factors such as family support, self-esteem, and extraversion.

We found no research on academic resilience in three journals focused on rural education: *The Journal of Research in Rural Education, The Rural Educator,* and *Theory and Practice in Rural Education.* In *The Rural Educator*, we found only one review of research on a related topic (trauma-informed practices, Frankland, 2021) and one program-specific exploration of college students' perceptions of barriers and supports (Goldman, 2019).

**Rural Northern and North Central Appalachia**

Appalachia is a broad region in the eastern USA, encompassing nearly 200,000 square miles and tracing the Appalachian Mountain range through 13 states (Appalachian Regional Commission, 2019). Appalachia is further categorized into northern, central, and southern subregions. The Appalachian region is mainly rural, with nearly half of the population residing in rural areas, more than double the national proportions.

While Appalachia has a deep and rich cultural heritage, these positive elements are frequently overshadowed, at least in the popular conversation, by persistent poverty, limited community resources, and widespread negative stereotypes that lead to mistreatment by people of other regions (Cooke-Jackson & Hansen, 2008). In addition to the stereotypes, scholars have noted an overall lack of research regarding Appalachia (Ali & Saunders, 2006, 2009; Irvin et al., 2012; Semke & Sheridan, 2011).

Rural Appalachian youth do face some difficult realities. The isolated nature of many Appalachian communities limits access to critical resources such as grocery stores, medical care, and adequate housing (Ali & Saunders, 2006, 2009; Cooke-Jackson & Hansen, 2008; Semke & Sheridan, 2011), and mental health support (El-Amin et al., 2018). Communities lacking suitable mental health support see increased deaths from drug overdoses, suicides, and diseases associated with chronic alcoholism (El-Amin et al., 2018).

Chronic poverty has impacted Appalachian youth from some areas over several generations (Byun et al., 2012; Evans et al., 2016; Hoffman et al., 2017; Smokowski et al., 2013). Bright (2018) observed that growing up in systemic, generational poverty can produce cumulative adverse outcomes and limited opportunities from childhood to adulthood. These long-term outcomes include poor diets, reduced health, persistent unemployment, and continuous low socioeconomic status (Seals & Harmon, 1995). Adults sometimes adopt unhealthy lifestyles as coping mechanisms, struggling to support their children and exposing them to toxic stress (Shonkoff & Garner, 2011).

Appalachian youth growing up in a cycle of chronic poverty are likely to face interpersonal victimization, financial strain, and adverse life events (Banyard et al., 2017; Hardaway et al., 2012; Smokowski et al., 2013), including academic struggles that reduce their self-efficacy and desire to continue their education (Ali & Saunders, 2009). Students growing up in chronic poverty who successfully finish high school tend to have lower post-secondary aspirations than their peers (Irvin et al., 2012).

**Adverse Childhood Experiences**

Adverse childhood experiences (ACEs) are extreme childhood difficulties (Banyard et al., 2017), including exposure to sexual abuse, physical abuse, emotional abuse, or neglect (Norman et al., 2012). As an individual is exposed to ACEs, there is a permanent change in brain structure and functioning (Shonkoff & Garner, 2011). Due to the nature of this rewiring, ACEs tend to have a negative impact throughout the lifespan. This lifelong influence, noted by Felitti et al. (1998), is both strong and cumulative.

Those exposed to one or more ACEs will likely have increased morbidity and mortality later in life (Felitti et al., 1998; Shonkoff & Garner, 2011). Among other outcomes, individuals who have experienced ACEs may have increased fear and anxiety, altered mood functioning, and impaired judgment of whether something is safe (Shonkoff & Garner, 2011). ACEs are linked to a wide range of adulthood problems, such as smoking, severe obesity, eating disorders, high-risk sexual behavior, lack of physical activity, depression, use of illicit drugs, and suicide attempts (Felitti et al., 1998; Norman et al., 2012; Shonkoff & Garner, 2011; Southwick et al., 2014). Adults struggling to come to terms with adverse experiences from their childhood are likely to struggle to maintain supportive social networks and find themselves living in a cycle of persistent poverty, homelessness, crime, and incarceration (Shonkoff & Garner, 2011).

The lifelong impact of ACEs means that their effects extend to future generations. As adults struggle to cope with the realities of their past, they tend to adopt unhealthy lifestyles, find themselves unable to maintain employment or a stable living situation, and have difficulties supporting their children (Shonkoff & Garner, 2011). As a result of these struggles, the next generation becomes exposed to similar ACEs and toxic stresses as their parents before them (Shonkoff & Garner, 2011). This cycle entraps families with children's exposure to ACEs frequently occurring at the hands of a parent or guardian (Norman et al., 2012).

This cycle of adversity negatively influences children's educational development. In her landmark study, Werner (1989) found that 66% of children who score four or higher on the ACE scale developed severe learning or behavioral problems before age ten. Permanent changes to brain structure play a large part in this, as they impair memory and have been shown to inhibit educational attainment and lifetime economic productivity (Shonkoff & Garner, 2011). Instead of academic success, individuals find themselves with

delinquency records, increased teen pregnancy rates, and an array of mental health problems (Werner, 1989).

Bethell et al. (2019) investigated positive childhood experiences that would mitigate the adverse outcomes of ACEs, at least in mental and relational health areas. Based on Bethell et al.'s findings, Breedlove et al. (2021) partly theorized that restorative practices in schools could provide some of those mitigating positive experiences.

**Hope**

Snyder et al. (1991; Snyder, 2002) define hope as a cognitive process with two distinct components related to goal pursuit: pathways and agency. Agency refers to the determination to meet future goals. Those with high agency hope are more certain about goal attainment and perform better. They also tend to pursue more challenging goals than those with low agency hope. Pathways hope is the generation of feasible plans, including alternative paths, to meet a goal (Snyder et al., 1991). Those with high levels of pathways hope to plan initial ways to accomplish a goal, and when faced with barriers, they will find alternative paths (Snyder, 2002). Finding alternative paths frequently involves calling friends and family for support during stressful situations (Snyder, 2002). This reliance upon a social network ties Snyder's cognitive theory of hope to social support.

Hope contributes to both resilience and well-being (Grund & Brock, 2019; Hellman, Munoz, et al., 2018; Hellman, Robinson-Keilig, et al., 2018; Munoz, Quinton, et al., 2018; Snyder, 2002; Snyder et al., 2003; Sulimani-Aidan et al., 2018). Those with high levels of hope have healthy lifestyles, avoid life crises, and cope better with stressors (Snyder et al., 1991), and as a result, experience improved physical well-being (Snyder, 2002). Hope contributes to relationships, academics, and careers (Counts et al., 2017). In school contexts, Snyder et al. (2002) noted that hope predicts student performance as measured by grades and drop-out rates. Ciarrochi et al. (2007) found hope positively related to academic achievement. Dixson et al. 2018) found that hope partially mediated the relationship between socioeconomic status and academic achievement. Pertinent to school leaders and scholars, evidence is growing that hope can be taught. Hodson et al. (2021) demonstrated that hope and cognitive flexibility increase with daily diary goal reflection intervention.

It is generally agreed that protective factors such as having a relationship with a supportive adult can moderate the impact of adverse experiences and promote resilience. The individual attributes of hope and resilience are widely recognized as positive and related: high-hope individuals display resilience by maintaining their pursuit of goals in the face of adversity (Cassidy, 2016; Grund & Brock, 2019; Hellman, Robinson-Keilig et al., 2018; Munoz, Pearson, et al., 2018; Snyder, 2002; Snyder et al., 2003; Sulimani-Aidan et al., 2018).

With hope playing such a significant role in goal pursuit and positive outcomes, the effects of low levels of hope can be devastating, negatively impacting development and affecting everything from behavior to cognitive functioning to psychological development (Baxter et al., 2017; Grund & Brock, 2019; Munoz, Pearson, et al., 2018; Snyder, 2002; Snyder et al., 2003). Not surprisingly, adverse childhood experiences (ACEs) have a significant negative impact on academic outcomes. What remains to be seen is the role of hope and social support.

**Social Support**

Social support (SS) has been defined as being loved and cared for by others, including communication and mutual responsibility (Kim et al., 2008). Zimet et al.(1988) described different types (instrumental, informational, emotional, and evaluative) and sources (family, friends, and esteemed others such as teachers, coaches, and religious leaders). Social support occurs between two or more individuals and can be given and received (direction). It can consist of information, direct assistance (instrumental), encouragement (emotional), financial, and appraisal (evaluative) (Reevy & Maslach, 2001; Zimet et al., 1988). The level of social support an individual experiences depends on the richness of the social network in which they are embedded and their support-seeking behaviors (House, 1981; Reevy & Maslach, 2001). Lin (1986) described the subjective-objective dimension of social support, distinguishing between received support (objective) and perceived support (subjective). Over the subsequent decades, perceived social support (PSS) has more empirical support for having protective or stress-buffering functions (Bolger & Amarel, 2007; Demaray & Malecki, 2002; Wethington & Kessler, 1986) and is a more powerful predictor of well-being (Uchino, 2009) and self-esteem among adolescents (Ikiz & Çakar, 2010).

Perceived social support (PSS) has been linked to positive health outcomes (Uchino, 2009) as well as academic outcomes (Eggens et al., 2008). Martinez-Lopez et al. (2019) found perceived social support to be positively associated with adjustment to university. Of note, Mishra (2020) systematically reviewed the social support literature and found that students from low socioeconomic and other underserved backgrounds encountered barriers in accessing institutional social support in post-secondary education (e.g., financial aid support). Still, they derived support from peers with similar backgrounds and their family cultural values (e.g., discipline, integrity). Mishra also noted that students from collectivist cultures were more likely to access SS from peers than students from individualist cultures (Western Europe and the United States).

Social support in the home, school, or community protects children from negative outcomes related to ACEs (Powell & Davis, 2019). Specifically, social support is an influential factor in the presence of hope (Ho et al., 2021; Mahon & Yarcheski, 2017). Relevant to the current study, Ho et al. (2021) found that parental support contributed to increased hope among young adults regardless of socioeconomic status.

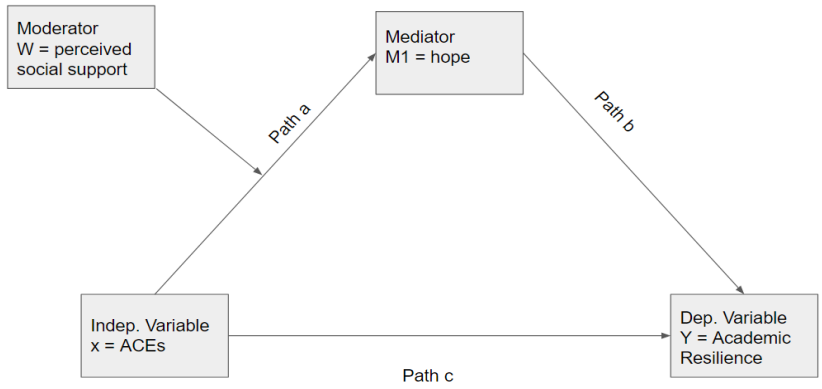
## Methodology

We designed this cross-sectional study to:

1. Examine the relationships between hope, ACEs, perceived social support, and academic resilience;
2. Explore whether a combination of ACEs and hope predicts academic resilience;
3. Examine whether hope mediates the relationship between ACE and academic resilience and whether such mediation, if present, is moderated by perceived social support (see Figure 1). Specifically, the moderated mediation model was tested using a bootstrapping approach to assess the significance of the indirect effects at differing levels of the moderator (i.e., social support) on the relationship between ACEs and academic resilience via hope, the potential mediator (Hayes, 2013).

**Figure 1**

*Moderated mediation model with hope as the mediator and perceived social support as the moderator.*




### Participants

After ethics board review and approval, two hundred emerging adults between 18 and 29 (*M* = 24.5, *SD* = 3.21) from rural Upper and Central Appalachia responded anonymously to the online questionnaire. Of those, 155 (77.5%) reported having spent most of their life and educational experiences within the Appalachian coalfields, a distinct sub-region located within Central Appalachia. Overall, the Coalfield area is economically distressed, with coal production and coal-related employment declining by more than 50% between 2001 and 2022 (Appalachian Regional Commission, 2023). Ninety-six participants (48%) self-identified as male, and ninety-eight (49%) identified as female, with five (2.5%) indicating their gender was not listed and one (0.5%) not sharing their gender.

## Instrumentation

The following instruments were administered via QuestionPro in an anonymous online questionnaire in March 2020.

### *Academic Resilience Scale (ARS-30)*

Cassidy (2016) developed the Academic Resilience Scale (ARS-30) to measure students' responses to academic challenges and adversities. The ARS-30 consists of three subscales: 14 items measure perseverance, seven measure negative affect and emotional response, and nine measure reflective and adaptive help-seeking. The ARS-30 demonstrates adequate reliability and predictive validity. The Cronbach's α for the overall ARS-30 is 0.90, .83 for the perseverance subscale, .78 for reflective and adaptive help-seeking, and .80 for negative affect and emotional response (Cassidy, 2016; Hunsu et al., 2022). All scale items correlated .3, except for items 1 (.14) and 14 (.12) (Cassidy, 2016). A significant positive correlation exists between ARS-30 scores and academic self-efficacy, $r$ = .49 (Cassidy, 2016).

### *Adverse Childhood Experiences Questionnaire (ACE-Q)*

We used the 10-item Adverse Childhood Experience Questionnaire (ACE-Q; Felitti et al., 1998) to measure participants' adverse childhood experiences. The ACE-Q measures the level of childhood exposure to emotional abuse, physical abuse, sexual abuse, and household dysfunction. Household dysfunction can encompass several experiences, including parental separation, exposure to substance abuse, mistreatment of the mother or stepmother, mental illness, or criminal behavior in the household (Felitti et al., 1998). The ACE-Q produces scores from zero to ten, with a higher value indicating more adverse childhood experiences. The ACE-Q has been widely used as a screening instrument with many sub-populations in the USA and other countries, showing predictive solid validity for mental and physical health outcomes (Zarse et al., 2019).

### *Perceived Social Support (MSPSS)*

The Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988) measures social support and consists of 12 items in total, with four items measuring each of the three sources of support: family, friends, and significant other. The MSPSS is psychometrically sound with good reliability and adequate construct validity, besides being easy to understand and interpret (Zimet et al., 1988). Cronbach's α values were found to be above .80 for the overall MSPSS scale and each of the three subscales, with actual values ranging between .81 and .98 (Zimet et al., 1990).

### *Adult Trait Hope Scale (AHS)*

The adult trait hope scale (AHS; Snyder et al., 1991) consists of 12 items that measure two subscales: pathway thinking (4 items) and agency thinking (4 items) plus four filler items on a 4-point Likert scale from 1 *Definitely False* to 4 *Definitely True*.

Sample items include: “I can think of many ways to get out of a jam” and “I energetically pursue my goals.” The AHS has been found to be valid with various sub-populations and adequately reliable, with prior research placing internal consistency values between .63 and .86 (Pleeging, 2022; Snyder, 2002).

### Data Analysis

To address RQ1, a Pearson correlational analysis was used to determine whether there were significant correlations among hope, ACEs, perceived social support, and academic resilience. To address RQ2, a standard multiple regression was utilized to explore whether a combination of ACEs and hope predicts academic resilience. In addressing RQ3, we used Preacher and Hayes’ (2008) SPSS macro (bootstrapping with 1000 iterations) to examine whether there was a conditional indirect effect of the moderator (i.e., social support) on the relationship between ACEs and academic resilience via the potential mediator (i.e., hope). In the moderated mediation model (Figure 1), the ACEs score was the independent variable, with hope as the mediator. The dependent (outcome) variable was academic resilience, and social support was the proposed moderator. The moderated mediation analysis tested the conditional indirect effect of a moderating variable (i.e., social support) on the relationship between a predictor (i.e., ACE) and an outcome variable (i.e., academic resilience) via the potential mediator (i.e., hope). An index of moderated mediation was used to test the significance of the moderated mediation (Hayes, 2013), i.e., the difference in the indirect effects across levels of social support. Significant effects were supported by the absence of zero within the confidence intervals.

## Results

### RQ1: Correlations among Study Variables

As expected, the analysis revealed a strong positive relationship between hope and AR and between PSS and AR. We also found a robust negative relationship between ACEs and AR, hope, and PSS (see Table 1).

**Table 1**

*Pearson Correlation among Academic Resilience, ACE, Hope, and Perceive Social Support*

| Variable | M | SD | 1 | 2 | 3 |
|---|---|---|---|---|---|
| 1. Academic Resilience | 107.10 | 18.02 | | | |
| 2. ACE | 2.08 | 2.21 | -.44** | | |
| 3. Hope Total | 24.89 | 3.90 | .57** | -.36* | |
| 4. Perceived Social Support (MSPSS) | 64.66 | 14.70 | .52** | -.42** | .42** |

* p<.05 (2-tailed); **p<.01 (2-tailed); ACE - Adverse Childhood Experiences

**RQ2: Multiple Regression Analysis**

The multiple regression analysis found that ACEs and hope (total) accounted for about 39% of the variation in academic resilience, a large effect size according to Cohen et al.(1988), $R^2$ = .39, $F(2, 197) = 63.22$, $p$ <.001. Hope predicted academic resilience ($\beta$ = 2.19, $p$ < .001), as did ACEs ($\beta$ = -2.24, $p$ < .001).

**Table 2**

*Multiple Regression Analysis Summary for Hope and Childhood Adversity Predicting Academic Resilience*

| Variable | *B* | 95% CI | *β* | *P* |
|---|---|---|---|---|
| Adversity | -2.24 | [-3.1929 -1.2766] | .49 | 0.00 |
| Hope | 2.19 | [1.6443 2.7297] | .28 | 0.00 |

**RQ3: Moderated Mediation Model**

Assumptions of linearity, normality, and uncorrelated errors were checked and met. The test revealed a significant indirect effect of ACEs on academic resilience, $b$ = -1.38, *BCa CI* [-2.16, -.696], through hope, indicating that hope mediates the relationship between ACEs and academic resilience. Meanwhile, hope's upper and lower confidence intervals (Zimet et al., 1988) crossed zero, [-.05, .03] suggesting the lack of significant moderation effect. We should have found significance in the impact of social support on the strength of the relationship between adversity and hope. Given such, data showed that hope mediated the relationship between adversity and academic resilience,

regardless of the perceived social support level. The relationship between adversity and hope does not vary based on the amount of perceived social support.

## Discussion

In this study, adversity and hope accounted for substantial variation (39%) in academic resilience, suggesting their importance to Appalachian young adults' academic resilience. We found hope was a significant mediator of the relationship between adversity and academic resilience, suggesting the importance of hope in helping Appalachian young adults recover from adversity. This study provides some evidence that the mechanism of that impact is through the lowering of hope. People with higher levels of ACEs tend to score lower on overall hope, both in devising pathways to a goal and in the agency for taking steps along a pathway. While educators cannot help students avoid all adversity, policymakers and educational leaders can implement trauma-informed supports and programs to enable early identification and intervention. Also, teachers can teach certain cognitive and affective skills. As noted in the implications for practice section below, ACEs can be moderated, and hope can be taught.

Meanwhile, perceived social support did not moderate the relationship between adversity and hope levels. Regardless of the level of perceived social support reported by the participants, a significant negative impact of adversity on hope levels was observed with the same strength. Even if an individual reported significant social support in this study, they would still be susceptible to the negative implications of adversity. On the surface, this appears to contradict Werner's (1989) observation that the development of supportive and protective elements determines whether an individual will overcome adversity, with increased volume and severity of ACEs resulting in an increased need for protective factors. This finding also appears to contradict more recent research indicating that the presence of a lasting positive relationship with a trusted adult has shown to be a particularly powerful protective factor (Arincorayan et al., 2017; Baxter et al., 2017; Fry-Geier & Hellman, 2017; Munoz, Quinton, et al., 2018; Sulimani-Aidan et al., 2018). Thus, while the current study failed to find the moderation effect of perceived social support on ACEs and hope, we note that the cross-sectional nature of this study limited our ability to sort out the relationship between social support and hope (Vogt, 2005). Additionally, it may be that the presence of ACEs overwhelms the supportive factors in place, reducing hope levels for even those with high levels of support. This would align with Werner's observation that even highly resilient individuals can encounter problems when stressful events outweigh the protective factors (Werner, 1989).

## Implications for Practice

The results of this analysis, which point to the importance of developing hope and the devastating influence of ACEs on hope, lend themselves to several applications for educational policy and professional practice. While these implications apply to various K-12 school settings, they are particularly relevant in the Appalachian context due to the

elevated rates of adversity that are present in this region (Banyard et al., 2017; Bright, 2018; Norman et al., 2012; Shonkoff & Garner, 2011; Southwick et al., 2014) and the overall isolation and lack of access to critical supports (Ali & Saunders, 2006, 2009; Cooke-Jackson & Hansen, 2008; El-Amin et al.2018; Semke & Sheridan, 2011). We also recommend that rural educators recognize the protective factors in rural communities and seek opportunities to collaborate with faith communities, civic groups, and extended family members. The following recommendations assume both the risk and protective factors of rural America.

First, to build on the strength of higher preschool enrollment in some rural areas (Hartman et al., 2023), rural schools can prepare staff to identify children with trauma symptoms early and provide appropriate interventions to moderate those effects. The power of ACEs and related trauma on overall student well-being and academic outcomes highlights the importance of access to early protective resources starting in preschool, if not sooner. These could include teachers trained in trauma-informed instruction and available school counselors and psychologists. Funding public preschool and adequately training staff, particularly in high-poverty rural areas, would build on the already higher rates of rural preschool attendance and should be a policy priority. This recommendation is supported by Eppley et al. (2023), who found that rural public schools in Pennsylvania have better academic outcomes than cyber charter schools despite funds being shifted to cyber charters. Several other states with large rural populations are experiencing similar policy trends (e.g., Texas; see Griffith, 2023).

The devastating impact of ACEs means that teaching individuals to be more hopeful or to pursue social support will be insufficient if children remain in educational and other social systems that allow, enable, or even support continued trauma. Thus, another implication for practice is the power of school-community partnerships with civic and faith groups. As noted, faith and extended family communities strengthen Appalachia and many other rural areas. Zuckerman (2023) reviewed the research on rural school-community partnerships and found promising models for full-service community schools and career networks. These partnerships can facilitate the provision of trauma-informed family support services to prevent, identify, and provide early interventions for children at risk. The career networks model supports students in entering their chosen careers. Additionally, community-based adult education can train community members to recognize trauma symptoms among family members and help break the cycle of ACEs. Parents, guardians, and extended families, who all will need to play a part in eliminating the cyclical nature of childhood trauma, can be taught hopeful cognitive approaches to pursue goals and seek social support.

Given the importance of hope in developing academic resilience, it is clear that hope needs to be a more explicit part of the K-12 educational experience in rural schools. Students should be taught the process of goal pursuit and how it can be developed as a

transferable skill. The need for this concrete focus on goal-oriented behaviors points to another implication for practice: the need for programs that explicitly teach social involvement and goal-oriented behaviors. These programs should focus on seeking positive support to help achieve goals and emphasize targeted practice to build the skills related to goal pursuit, support-seeking behaviors, and achievement.

Steps can be taught to increase cognitive flexibility, an antecedent to AR. One such step involves creating problem situations in which students navigate different approaches and solutions to the problems (Yavuz & Kutlu, 2016). The cognitive flexibility to imagine different pathways when barriers are encountered is the pathway dimension of hope. Teachers can support the development of academically resilient students by modeling pathway and agency thinking and then providing opportunities for students to practice finding alternate pathways and exercising agency in response to barriers (Mirza & Arif, 2018). Additionally, it is essential to develop students' metacognition, an awareness of their learning process, and an ability to anticipate barriers common in the rural environment.

## Limitations and Recommendations for Research

These findings also suggest several opportunities for future research, particularly given the need for overall research on the Appalachian region (Ali & Saunders, 2006, 2009; Irvin et al., 2012; Semke & Sheridan, 2011). Data were collected at the beginning of the COVID-19 pandemic so that replication would be in order after the pandemic. As a cross-sectional study, we attempted to measure multiple constructs at once. Social support, hope, and academic resilience were all measured as current constructs, while ACEs were measured as remembered past occurrences. It might more clearly illuminate the relationships by including measures of past experiences, such as social support perceived in high school. Future studies might use a different variation of the Hayes Process model (Hayes, 2013) or a cross-lagged design to reveal causal relationships (e.g., Rowsell et al., 2016).

A cross-lagged panel or other longitudinal design would address the limitation related to sorting out the relationships between past occurrences of ACEs and current levels of resilience, hope, and social support. Clarifying these relationships is especially difficult because resilience, hope, and perceived social support levels fluctuate, particularly in emerging adulthood (Brissette et al., 2002). Scholars might be interested in the social support and hope experienced while in secondary school and how those vary over time and, in turn, influence academic and health outcomes.

Also, researchers could explore how emerging adults who have experienced adversity learn to build social networks and access social support through those networks. Similar research could be done with other people groups susceptible to trauma, such as immigrant groups, including refugees and asylum seekers, and emancipated foster youth (and adults), to name a few. Vicarious resilience suggests the social nature

of building resilience (Hernandez-Wolfe, 2018) and could open up possibilities for exploring how academic resilience can be learned in schools among students and faculty.

While much attention has focused on adverse childhood experiences, adults across their lifespan also experience adversity and pursue academic goals. As such, researchers might consider an investigation into how post-traumatic stress disorder, post-traumatic growth, and other responses to trauma interact with academic outcomes and learning among adults.

Lastly, the current study is limited to one geographic location. While many challenges are common to rural areas, cultural and other differences may limit the generalization of these findings to other areas and populations.

## Conclusion

This cross-sectional study of young adults in rural Appalachia revealed that hope and adverse childhood experiences (ACEs) predicted academic resilience (AR). The moderated-mediation tests indicated that while hope and perceived social support (PSS) were strongly correlated and hope mediated the relationship between ACEs and AR, PSS did not moderate that relationship. The results highlight the importance of school-community partnerships and increased funding for pre-school options, along with integrating hope-building lessons and activities into the curriculum for students and teachers. Educators and other professionals can model and teach the cognitive flexibility necessary for pathway hope and agency hope that lead to academic resilience.

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*Theory & Practice in Rural Education (TPRE)*
2024, Vol. 14, No. 1, Pp. 73-98
Copyright 2024 ISSN:2641-7170
https://doi.org/10.3776/tpre.2024.v14n1p73-98

# Examining the Influence and Implications of Peer Relationships on the Academic Motivation and College and Career Readiness of Rural Adolescents

**Peter N. Knox**, *University of Vermont*

School experience factors, including peer relationships, internalized behavior, and externalized behavior, have been found to influence adolescent academic motivation and postsecondary readiness. However, the path these critical elements take to shape postsecondary motivation and readiness remains unclear, particularly among understudied rural contexts and populations. Thus, this study aimed to (a) examine the impact of positive rural peer relationships on academic motivation and college/career readiness, (b) examine the impact of positive rural peer relationships on internalized and externalized behavior in educational contexts, and (c) learn how both internalized and externalized behaviors might mediate the association between positive peer relationships and educational attainment factors. Two thousand sixteen survey responses from 8,541 rural adolescents (12–18 years old) from the Midwest United States were utilized to conduct a cross-sectional mediating path analysis investigating the associations among peer relationships, internalized behavior, externalized behavior, and academic motivation and college/career readiness. Results indicated that positive peer relationships are significantly associated with adolescent academic motivation and college/career readiness. A significant association between positive peer relationships, academic motivation, and college/career readiness mediated by adolescent externalized behavior and a significant association between positive peer relationships and academic motivation mediated by internalized behavior were also identified. This study advances the understanding of rural peer relationships' influence on adolescent behavior and subsequent perceptions of postsecondary readiness. Implications for school practices focused on climate and culture that foster prosocial rural adolescent relationships supporting educational attainment are discussed.

***Keywords*: peer relationships, internalized behavior, externalized behavior, academic motivation, postsecondary readiness, rural adolescents**

Despite increasing graduation rates and math and reading test scores (Aud et al., 2013), rural students' transition to and successful completion of postsecondary education or training programs still lags behind urban and suburban peers (National Student

Clearing House [NSC] Research Center, 2016). This delay decreases the likelihood of attending and remaining enrolled in postsecondary education or training relative to non-rural peers (Byun et al., 2015). These barriers impact rural students' access to improved financial, health, and civic participation prospects later in life. Despite this growing evidence, the exact source of the divergence between rural and non-rural students is unknown (Player, 2015; Tieken, 2016). This lack of concrete evidence (Player, 2015; Sherman & Sage, 2011) requires a more focused investigation into other potential sources of this discrepancy, such as external factors like social connection (i.e., peer relationships), as well as internal mental and behavioral health factors and motivation and readiness for postsecondary pathways.

Evidence has begun to show that weaker social networks and connections to peers and school may be associated with increases in specific challenges such as substance abuse and delinquent behavior (Hoffman et al., 2017). Peer relationships have also been identified as influential on overall feelings of school connectedness, engagement (Gowing, 2019; Oldfield et al., 2016), and subsequent social and academic success (Wentzel, 2017). Examining these variables within rural populations supports a more nuanced understanding of school contexts that influence rural adolescent postsecondary trajectories and attainment (Sherman & Sage, 2011). Thus, this study aims to examine the impact of positive rural peer relationships on academic motivation and college/career readiness and learn how both internalized and externalized behaviors might mediate these relationships. A greater understanding of these factors and the mechanization of adolescent peer relationships within a rural context may influence school decisions and the provision of student support and guidance, ultimately impacting the postsecondary trajectories of rural adolescents.

## Adolescent Peer Relationships

Social cognitive career theory (SCCT) suggests that school experiences and learning opportunities shape an individual's self-efficacy and value for postsecondary options (Brown & Lent, 2019). One environmental context or school experience variable particularly significant for adolescents is relationships and social connection with peers. The importance of peer relationships increases dramatically as children enter adolescence and develop into emerging adulthood (Scholte & Van Aken, 2020; Wang et al., 2018; Wentzel, 2017). As the school and community environments that children know expand to include a broader range of experiences and people, the perspectives and influence of similarly aged individuals also grow in importance (Li et al., 2011). This influence, sometimes called bonding social capital, can be thought of as connections and relationships within groups composed of individuals with similar personal characteristics and access to resources and information (Adler & Kwon, 2002). Trusting relationships, positive social embeddedness, and shared identity are often associated with this relationship (Szreter & Woolcock, 2004) and tend to include peers, siblings of similar age,

and significant others (Furman & Rose, 2015). Research has shown that peer relationships may strongly influence youth's academic motivation, self-efficacy, and postsecondary achievement levels (Li et al., 2011; Rosenqvist, 2018; Wentzel, 2017). However, evidence of what this looks like specifically for rural youth remains limited.

Research on rural youth academic motivation and college/career readiness often highlights barriers or challenges rural students face (e.g., pervasive poverty, limited school resources, and programming) (Biddle & Azano, 2016; Irvin et al., 2012; Lavalley, 2018). However, there is evidence that certain aspects of rurality and rural schools, such as sustained social connection, may positively impact academic motivation and attainment. For example, Byun et al. (2012) argued that strong social connections and support structures may benefit rural communities' academic aspirations and achievement levels. Close connections with peers, schools, and immediate communities, often more prevalent in rural contexts, may serve as facilitators to increase social capital, consequently impacting academic motivation and educational attainment (Byun et al., 2012). Further, social structures and support mechanisms have been found to influence educational aspirations and career and academic decision-making for rural youth by impacting their sense of belonging and academic self-concept (Howley, 2006; Irvin et al., 2011). This social relationship often found within rural communities extends into academic settings. Hardré & Hennessey (2010) noted that close student-teacher relationships, more significant opportunities for involvement with peers in both in-school and out-of-school activities, and a sustained connection to the same peer group contribute to a more positive educational experience for rural adolescents. As such, further intentional focus on non-academic social factors that may shape rural student postsecondary trajectories is needed to provide further evidence and clarification around this mechanism and process of influence.

Looking beyond a specific influence on academics, research has also demonstrated ways in which positive prosocial relationships impact specific adolescent health outcomes through reducing negative externalized behavior (e.g., bullying, absenteeism, aggression), support with chronic conditions, and buffering distress (Ehsan & De Silva, 2015; Gilbert et al., 2013; Hale et al., 2015). Other scholars have identified ways social ties and connections may affect physical, mental, and behavioral health (Buck-McFadyen et al., 2019; McPherson et al., 2013). Further, recent research has begun to identify strong connections between social cohesion and peer networks and positive adolescent internalized and externalized behaviors as demonstrated by lower rates of risk-taking behavior, a greater sense of belonging, and higher educational attainment (Benner, 2011; Borawski et al., 2003; Van Ryzin & Roseth, 2018; Yugo & Davidson, 2007) and lower rates of violence and aggression (Fu et al., 2021; Hale et al., 2015; McPherson et al., 2014). These positive characteristics often found within rural contexts and the experiences of adolescents (Hardré & Hennessey, 2010; Masland & Lease, 2016) may be contributing to recent increases observed in rural academic

achievement and postsecondary aspirations during high school (Aud et al., 2013; Molloy et al., 2011), yet further research investigating direct connections between these concepts is needed.

## Adolescent Internalized and Externalized Behavior

A large body of scholarship has illuminated the critical role of internalized and externalized behaviors during adolescence and the ways they can shape both physical and psychological development (Andersen & Teicher, 2008; Cattelino et al., 2020; Currie & Morgan, 2020; Romeo, 2016). The relationship between adolescent internalized and externalized behaviors and academic achievement has also been researched intensively (Cattelino et al., 2020; Frank, 2020; McLeod et al., 2012; Totura et al., 2014). Both behaviors remain of interest to health and education professionals as individuals who struggle with negative internalized and externalized behavior during adolescence often see these challenges persist into emerging adulthood and later life, further impacting academic, social, and physical development and success (Johnson et al., 2018; McLeod et al., 2012).

Internalized behaviors are feelings and emotions that are dealt with internally rather than by acting them out in the home or school (e.g., anxiety, depression, loneliness, shyness) (Anderson-Butcher et al., 2013). Externalized behaviors, often closely linked to adolescent internalized behavior, are behaviors or actions directed outward, either toward the external environment or other individuals, such as poor attention, bullying, or impulsivity (Anderson-Butcher et al., 2013). Youth who struggle with negative internal and external behaviors often demonstrate lower levels of engagement, decreased interest, lower grade point averages, and achieve lower levels of postsecondary educational or career attainment (Diaconu-Gherasim & Mairean, 2020; McLeod et al., 2012; Vuolo et al., 2014). Further, recent research by Zhu et al. (2022) identified negative adolescent behavior as highly associated with a propensity for risk-taking, negatively impacting career success and attainment in later life. For rural adolescents, rates of mental illness and disorders remain on par with urban and suburban peers, yet treatment and management remain consistently lower in rural contexts (Robinson et al., 2017). Further, multiple heightened intersectional risk factors among rural adolescents alongside small, dense social networks can increase stigma and decrease help-seeking behavior among rural youth (Schleider et al., 2020).

Challenges with negative internal and external behaviors shape adolescent academic development and abilities (McLeod et al., 2012; Pascoe et al., 2020) that have been found to impact postsecondary attainment and performance (Vuolo et al., 2014), as well as success and stability in later adulthood (Kieling et al., 2011). In a systematic review of adolescent health impacts on adult education and employment, Hale and colleagues (2015) identified the strongest overall effect of adolescent health variables on secondary school completion. This significant overall effect, however, was only found within

adolescent internalized behaviors (e.g., depression, anxiety, loneliness, ADHD) as opposed to physical health conditions. Further, when examining participation in postsecondary education, this same analysis found that adolescent internalized behavior had a similar significant association and effect on this outcome and no significant impact on adolescent physical health.

Recent research by Scanlon et al. (2020) identified significant associations between adolescents' internalized and externalized behaviors and social interactions with peers. Negative internal and external behaviors were found to shape adolescent engagement with others, which subsequently impacted their performance with academic concepts and content. This research corroborates findings from similar scholarship investigating the association between adolescent internal and external behaviors (e.g., loneliness, life satisfaction, aggression) and critical connections such as peer relationships (Asher & McDonald, 2009; Wentzel & Muenks, 2016). Previous research noted that adolescent social support and internalized and externalized behaviors may collectively impact learning, development, and attainment (Benner, 2011; Fu et al., 2021; Oberle et al., 2011; Van Ryzin & Roseth, 2018). The role of internalized and externalized behaviors in shaping the development of effective prosocial relationships has also become a topic of increasing interest, particularly as postsecondary education programs and employers have demonstrated greater awareness and value in interpersonal skills and qualities (Johnson & Wiener, 2017 Schanzenbach et al., 2016). Internalized and externalized behaviors, in tandem with peer relationships, play a significant role in adolescents' academic and social development within rural areas and contexts where there are often increased barriers to social and emotional supports, resources, and interventions (Bellamy et al., 2011), a great need for localized, accessible interventions and policies that address these issues using readily available systems and supports remains (Schleider et al., 2020). Thus, the interaction of these constructs and the ways they might shape academic motivation, actions, and level of preparation become essential factors in supporting adolescent postsecondary success.

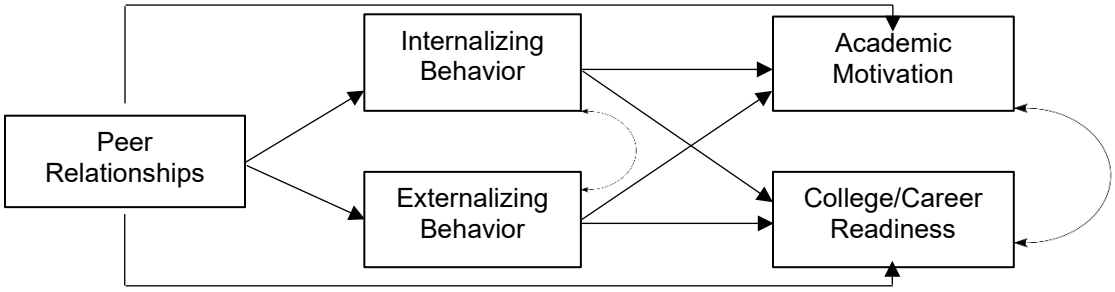
## Study Hypotheses

Previous scholarship tells us that peer relationships influence adolescent socialization, decision-making, and internalized and externalized behaviors (Bagwell & Bukowski, 2018; McDonald & Asher, 2018). However, the *mechanisms* of this influence or ways these essential elements coalesce and shape postsecondary motivation and readiness remain unclear. Despite an increase in attention to the role that peer relationships and internalized and externalized behaviors may have on various noncognitive constructs of adolescents, these separate bodies of research have yet to be fully integrated. Further, exploring the integration of these critical constructs specific to rural youth and this population's postsecondary motivations and readiness remains limited. This gap in the literature calls for an intentional focus on rural adolescents and

their school experiences to better understand the unique circumstances of this population and the ways their environments and context may impact them. Thus, informed by social cognitive career theory that considers internal and external influences on postsecondary aspirations and attainment, the current study focused on rural youth peer relationships and their subsequent impact on academic motivation and college and career readiness. This association was further examined through youth internalizing (negative feelings) and externalizing (negative actions) behavior. Figure 1 demonstrates these relationships of interest.

**Figure 1**

*Proposed path analysis model*




This study aimed to provide greater insight into rural youth and their educational attainment by investigating several hypotheses:

**Hypothesis 1:** Positive rural adolescent peer relationships will demonstrate a positive association with their academic motivation.

**Hypothesis 2:** Positive rural adolescent peer relationships will positively affect their college and career readiness.

**Hypothesis 3:** Positive rural adolescent peer relationships will demonstrate a positive association with both positive internalizing and externalizing behaviors.

**Hypothesis 4:** The association between rural adolescent peer relationships, academic motivation, and college and career readiness will be positively mediated by positive internalized and externalized behaviors.

## Methods

### Participants and Procedures

Original data were collected using the middle and high school version of the Community and Youth Collaborative Institute - School Experience Scales [CAYCI-SES] (Anderson-Butcher et al., 2013; Anderson-Butcher et al., 2020). The study author received approval from the university institutional review board to conduct secondary data analysis on the collected information. Participants voluntarily completed approximately

30-minute surveys administered by school staff during school hours. This resulted in an original sample that included 8,541 youth in grades 6-12 from 37 participating rural middle and high schools in the Midwest United States. The Office of Management and Budget's (2000) definition of rurality indicated that schools are in counties with less than 50,000 inhabitants, and 84 percent of the land is classified as non-metropolitan. Sample demographic information can be seen in Table 1.

**Table 1**
*Demographic information of study sample.*

| Variable | *n* | % |
|---|---|---|
| Gender | | |
| Female | 4241 | 49.7 |
| Male | 4061 | 47.5 |
| Race/Ethnicity | | |
| White | 7285 | 85.3 |
| Black/African American | 308 | 3.6 |
| Hispanic or Latino | 73 | 0.9 |
| Asian | 70 | 0.8 |
| Native Hawaiian/Pacific Islander | 28 | 0.3 |
| Multiracial | 241 | 2.8 |
| American Indian/Alaskan Native | 122 | 1.4 |
| Other | 204 | 2.4 |
| Grade | | |
| 6th | 331 | 3.9 |
| 7th | 1324 | 15.5 |
| 8th | 1640 | 19.2 |
| 9th | 1319 | 15.4 |
| 10th | 1312 | 15.4 |
| 11th | 1283 | 15.0 |
| 12th | 1118 | 13.1 |
| Age | | |
| 11 years old | 829 | 9.7 |
| 12 years old | 1524 | 17.8 |
| 13 years old | 1468 | 17.2 |
| 14 years old | 1316 | 15.4 |
| 15 years old | 1287 | 15.1 |
| 16 years old | 1172 | 13.7 |
| 17 years old | 452 | 5.3 |
| 18 years old | 43 | 0.5 |
| 19 years old | 22 | 0.3 |
| 20 years old | 43 | 0.5 |

*Note.* $N$ = 8,541.

## Measures

Cronbach's coefficient α – used to calculate the internal consistency coefficients of continuous variable survey items – is provided for each variable included in the current analysis. Previous research suggests that Cronbach's α levels of .70 or above indicate a reasonable measure of reliability or internal consistency of an instrument (Abraham & Barker, 2015; Taber, 2018). Guided by previous research that controlled for age, race, gender, socioeconomic status, parental involvement/support, and family/community connections (Baker et al., 2018; Stephens et al., 2015), five scales within the Middle and High School Student version of the CAYCI-SES were utilized, which were generated by the combining and averaging of subscale questions.

### *Academic Motivation and College/Career Readiness*

The outcome variables of interest in this study are academic motivation and college and career readiness. The academic motivation scale consisted of six questions about students' feelings and attitudes toward school and academic experiences. An example item from this scale is, "*I feel my school experience is preparing me well for adulthood*." Responses ranged from 1 = strongly disagree to 5 = strongly agree, and this variable obtained a Cronbach's alpha value of 0.84. The college and career readiness scale consists of seven questions focused on students' level of preparedness beyond high school. Example items from this scale are, "*What I learn in school will help me prepare for college*" and "*I am confident that I will reach my career goals."* Responses range from 1 = strongly disagree to 5 = strongly agree with Cronbach's alpha value of .89.

### *Peer Relationships*

The current study focused on one predictor variable and its relationship to the outcome variables described above. The peer relationships scale assessed the extent to which middle and high school students felt supported and had positive relationships with their peers (Anderson-Butcher et al., 2013). Example items from this six-question scale are, "*My friends support and care about me*" and *"My friends are people I can trust."* Response options ranged from 1 = strongly disagree to 5 = strongly agree. The variable peer relationships obtained Cronbach's alpha value of .87.

### *Internalizing and Externalizing Behavior*

The final variables accounted for in the current model are internalizing behavior and externalizing behavior. The 10-item internalizing behavior scale contained response options from 1 = strongly agree to 5 = strongly disagree, included items such as, "*In the past week, I felt sad*," and obtained a Cronbach's alpha level of .92. An average of the response scores from the ten items was calculated and used as an indicator of internalizing behaviors, with higher scores reflecting students reporting lower rates of negative internalizing behaviors (Anderson-Butcher et al., 2013). The 10-item externalizing behavior scale contained response options from 1 = very often to 5 = never,

included items such as "*Within the current school year, have you ever been in a fight?*" and obtained Cronbach's alpha level of .85. An average of the response scores from the ten items was calculated and used as an indicator of externalizing behaviors, with higher scores reflecting students reporting lower rates of negative behavior and actions (Anderson-Butcher et al., 2013).

**Analysis**

Missing data patterns were explored before data analysis. All model variables demonstrated at least 96% of values present. Logistic regression models for testing missing data patterns were conducted, and all variables yielded null results except externalizing behavior and gender. For every one-unit increase in negative externalizing behaviors, there was a 43% decrease in the odds of participants responding to college and career readiness questions (*OR* = 0.57*, SE* = 0.11, *z* = -2.83*, p* = 0.01, *95% CI* = 0.39, 0.84), and respondents who self-identified as male demonstrated a 66% decrease in odds or responding to college and career readiness questions (*OR* = *0.34, SE* = 0.12, *z* = -3.17*, p* = 0.001, *95% CI* = 0.17, 0.66). These variables were included in the study model, and each contained less than 3% missing data. However, data could not be considered missing at random based on significant predictors of missingness, and both significant predictors of missingness were included and controlled within the model. Therefore, complete information maximum likelihood estimation was employed (Schafer & Graham, 2002). This approach uses all available data to generate parameter and standard error estimates while accounting for missing data (McArdle, 2013).

Controlling for the remaining CAYCI-SES variables, a path analysis was conducted using Mplus 8 statistical software (Muthén & Muthén, 1998-2017). This analysis shows causal mechanisms through which independent variables produce direct and indirect effects on dependent variables. In the current study, I sought to investigate the direct impact of peer relationships on rural adolescents' internalized and externalized behaviors, academic motivation, and college/career readiness. Further, this study examines the indirect effects of peer relationships on academic motivation and college and career readiness, as mediated by internalizing and externalizing behavior. The current data was clustered, as often found in educational and psychological research. This means that the individual students examined were grouped (i.e., clustered) within the schools in which data was collected. The CLUSTER command was used to account for the nested data structure to adhere to the assumption of data independence. Further, intraclass correlation coefficients (ICCs) were computed to determine the dependence among group observations (Shrout & Fleiss, 1979). The ICC suggested that only 2% of the variance in college and career readiness (ICC = 0.02, *SE* = 0.01, $p < 0.001$, 95%CI = 0.01, 0.04) and only 4% of the variance in academic motivation (ICC = 0.04, *SE* = 0.01, $p < 0.001$, 95%CI = 0.03, 0.07), after adjusting for all model covariates, can be explained by school level (e.g., middle school, high school). Scholars have suggested that ICC values below 0.5

indicate poor reliability (Koo & Li, 2016; Kul et al., 2014). Thus, a two-level model where data is disaggregated by school level is not supported.

Before data analysis, model assumptions were examined. Linearity was examined using Pearson correlations between all continuous independent variables and the dependent variables of academic motivation and college and career readiness, with all correlations ranging from .27 to .61 and significant at 0.001, suggesting that the assumption of linearity was met. Further, previous scholarship indicates a distinct connection between adolescent academic motivation and college and career readiness (Brown & Lent, 2019; Conley, 2012; Conley & French, 2014) as well as internalized and externalized behaviors (Scanlon et al., 2020; Wentzel & Muenks, 2016), which may manifest differently in the context of unique personal and contextual school experiences of rural adolescents. Therefore, this study also identified the correlation between rural adolescent academic motivation and college and career readiness (.22, $p < .001$) and the correlation between internalized and externalized behaviors (.23, $p < .001$) in the proposed model. Normality was examined among all continuous variables with skew and kurtosis values for all variables falling below absolute values of 2 (skew) and 7 (kurtosis), indicating appropriate normality. Further, no issues of multicollinearity were present for study variables (variance inflation factor [VIF] < 2; O'Brien, 2007).

## Results

The means, standard deviations, and ranges of study variables are presented in Table 2.

**Table 2**
*Mean, standard deviation, and range for study variables.*

| *Variable* | *M* | *SD* | *Range* |
|---|---|---|---|
| Peer relationships | 3.83 | 0.77 | 1-5 |
| Internalizing behavior | 3.74 | 1.01 | 1-5 |
| Externalizing behavior | 4.23 | 0.63 | 1-5 |
| Academic motivation | 3.65 | 0.76 | 1-5 |
| College/career readiness | 3.96 | 0.85 | 1-5 |

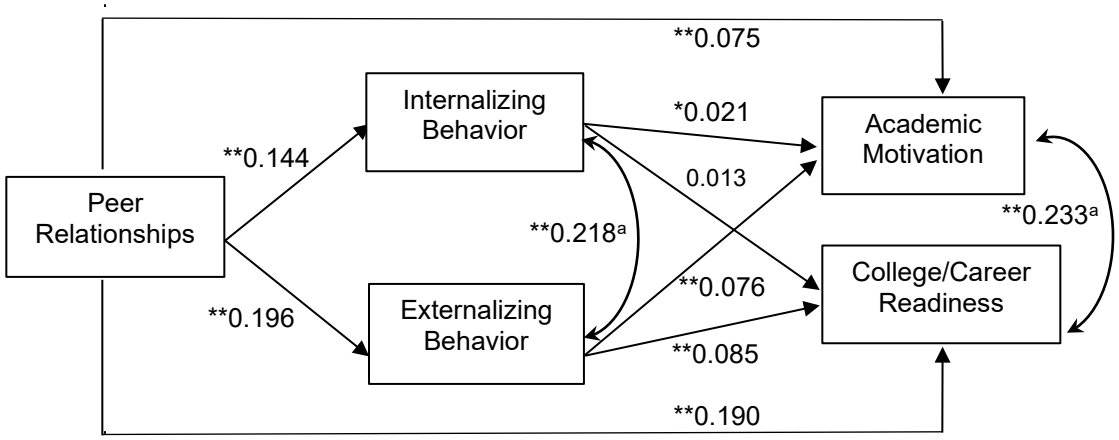
*Note.* $N$ = 8,541.

Appropriate model fit was evaluated using the chi-squared (χ2) misfit statistic, Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and the root mean square error of approximation (RMSEA; Hayduk et al., 2007; Hu & Bentler, 1999). Model fit statistics for the multilevel path model suggested a good fit for the data ($\chi^2$=15.31, df=2, $p$ = .0005; RMSEA = 0.03; CFI = 0.99; TLI = 0.94; SRMR = 0.02). Controlling for all other variables in the model, results indicated numerous significant relationships. Figure 2 estimates the direct effects of peer relationships, internalizing behavior, and externalizing behavior on academic motivation and college and career readiness. Also shown is the association

between the indirect effect variables of internalizing and externalizing behavior, which were found to be significant.

**Figure 2**

*Path analysis model showing causal mechanisms, direct and indirect effects.*




*Note.* Standardized direct effects are shown ($N$ = 8,541). [a] = significant correlation. *$p$ < 0.05, **$p$ < 0.001.

Table 3 shows all available direct effects found within the analysis.

**Table 3**

*The direct effects of each construct are demonstrated within the path analysis model.*

| | | | | *95% CI* | |
|---|---|---|---|---|---|
| | *ß* | *SE* | *p* | *LL* | *UL* |
| Internalizing Behavior | | | | | |
| Peer relationships | 0.144 | 0.017 | 0.000** | 0.112 | 0.177 |
| Externalizing Behavior | | | | | |
| Peer relationships | 0.196 | 0.018 | 0.000** | 0.161 | 0.231 |
| Academic Motivation | | | | | |
| Peer relationships | 0.075 | 0.013 | 0.000** | 0.049 | 0.100 |
| Internalizing behavior | 0.021 | 0.010 | 0.029* | 0.002 | 0.040 |
| Externalizing behavior | 0.076 | 0.011 | 0.000** | 0.055 | 0.097 |
| College/Career Readiness | | | | | |
| Peer relationships | 0.190 | 0.018 | 0.000** | 0.156 | 0.225 |
| Internalizing behavior | 0.013 | 0.014 | 0.354 | -0.014 | 0.040 |
| Externalizing behavior | 0.085 | 0.015 | 0.000** | 0.055 | 0.115 |

*Note.* IV = independent variable. DV = dependent variable. *$p$ < 0.05, **$p$ < 0.001.

### Direct Effects

Rural adolescent peer relationships were directly and significantly associated with academic motivation (*ß* = 0.196, *SE* = 0.018, *p* < 0.001, *95%CI* = 0.161, 0.231). Adolescent internalizing behavior (*ß* = 0.021, *SE* = 0.010, *p* = 0.029, *95%CI* = 0.002, 0.040) and externalizing behavior (*ß* = 0.076, *SE* = 0.011, *p* < 0.001, *95%CI* = 0.055, 0.097) were also found to have a significant direct association with academic motivation. Rural adolescent peer relationships were also directly and significantly associated with college and career readiness (*ß* = 0.190, *SE* = 0.018, *p* < 0.001, *95%CI* = 0.156, 0.225). Adolescent externalizing behavior was also found to have a significant direct association with college and career readiness (*ß* = 0.085, *SE* = 0.015, *p* < 0.001, *95%CI* = 0.055, 0.115). Of note, internalizing behavior and college and career readiness were found to have a nonsignificant association.

### Indirect Effects

Results further indicate a significant indirect association between peer relationships and academic motivation *through* both internalizing behavior (*ß* = 0.003, *SE* = 0.001, *p* = 0.031, *95% CI* = .000, .006) and externalizing behavior (*ß* = 0.015, *SE* = 0.003, *p* = 0.000, *95%CI* = .010, .020). This suggested that an increased peer relationship score was associated with higher levels of academic motivation through increased scores of internalized and externalized behaviors. Adolescent externalizing behavior was also found to have a significant indirect association with college and career readiness (*ß* = 0.017, *SE* = 0.003, *p* = 0.000, *95%CI* = .010, .023). This suggests that adolescent peer relationships influence their feelings of preparedness for life beyond secondary school as seen through increasing positive externalizing behavior. The indirect relationship between internalizing behavior and college and career readiness was not statistically significant.

## Discussion

This study investigated rural adolescent peer relationships and their subsequent impact on academic motivation and college and career readiness. Further, the mediating role of internalized and externalized behavior in conjunction with peer relationships was examined to understand better the mechanism or path that the influence of peer relationships takes to shape adolescent motivation and postsecondary preparation. Studies exploring the role of peer relationships, their impact on internalized and externalized behaviors, and their collective subsequent shaping of postsecondary motivation and readiness remain scant. In line with previous research (Byun et al., 2012; Li et al., 2011; Wentzel, 2017), peer relationships were positively associated with adolescent educational attainment as seen by improved perceptions of academic motivation and college and career readiness. The current study provides further insight into the critical role of adolescents' internalized and externalized behaviors in mediating the influence of peer relationships to shape rural adolescents' postsecondary aspirations and attainment.

Specifically, hypothesis one addressed the association between rural adolescent peer relationships and their academic motivation. Findings suggest that positive adolescent peer relationships were found to have a significant and direct association with academic motivation. This insight adds to growing evidence of the benefits and influence that stem from like-minded, positive, prosocial networks (Van Ryzin & Roseth, 2018). Molloy and colleagues (2011) suggest that adolescent academic motivation comprises several constructs, including academic engagement and self-concept. These constructs manifest as perceptions of competence about others, active participation, and applied effort (Bagwell & Bukowski, 2018; Molloy et al., 2011). The significant association between peer relationships and academic motivation corroborates the connection between peer relationships and adolescent perceptions of self-concept and postsecondary self-efficacy.

Strong peer relationships were also found to have a significant and direct association with college and career readiness. Previous scholarship noted that the strength of peer connections and relationships influenced educational aspirations, rural adolescent careers, and academic decision-making (Howley, 2006; Irvin et al., 2011; Masland & Lease, 2016). Peer relationships have been further identified as a significant contributor to adolescent socialization, academic self-concept, and academic effort exhibited through peer interactions (Molloy et al., 2011). This evidence is further reflected in the current study findings about participants' self-efficacy, goals, and decision-making related to trajectories beyond high school (Lent & Brown, 2019).

Peer relationships were found to be directly and positively associated with internalizing and externalizing behaviors. This demonstrates that greater peer support and trust contribute to more positive emotional states and prosocial behavior (Buck-McFadyen et al., 2019; Scanlon et al., 2020). Existing research supports the idea that adolescent internalized and externalized behaviors are buoyed by strong, supportive peer networks, connection, and information sharing (Choukas-Bradley et al., 2015; Van Ryzin & Roseth, 2018). The strength of the relationship demonstrated in this study's findings provides further evidence of the buffering and protective factors from positive peer associations (Hofmann & Muller, 2018; Larson & Tran, 2014). Thus, the consecutive, significant associations between adolescent peer relationships, internalized and externalized behavior, and subsequent postsecondary motivation and readiness demonstrate the path or mechanism by which social connections shape rural adolescent trajectories. This finding is critical to rural schools and educators, who will likely face limited access to healthcare services, mental health programming, and resources to support their students' social and emotional well-being (Perkins et al., 2021). As such, intentional focus on the elements of rural learning environments, such as school climates and peer engagement policies, that rural schools and educators can shape without increased resources must be prioritized to contribute to rural adolescent postsecondary success.

Hypothesis four in this study predicted the association between rural adolescent peer relationships, academic motivation, and college and career readiness mediated by internalizing and externalizing behavior. In reference to academic motivation, results indicated that strong, supportive connections with peers significantly impact adolescents' externalized behavior, subsequently impacting their academic motivation and feelings of preparedness for college or career. These findings support scholarship noting the critical role of adolescent behavioral health, particularly regarding academic outcomes, growth mindsets, and planning for the future (Frank, 2020; Hoffman et al., 2017). In addition, the results might be understood as evidence that trusting and supportive peer relationships during adolescence foster positive prosocial behaviors and actions oriented toward postsecondary success (Fu et al., 2021; Hale et al., 2015). Increasing constructive behavior and action (i.e., completing work, supporting peers, exhibiting good behavior) contributes to positive attitudes toward school and learning experiences, subsequently supporting perceptions of academic motivation, achievement, and college and career readiness (Wagner & Ruch, 2015). Rural adolescent peer relationships significantly impacted college and career readiness perceptions through externalized behaviors, often identified as tangible student actions, including physical altercations, truancy, or homework completion (Knight & Duncheon, 2020). This evidence signifies the importance of healthy school culture and climates that center on positive relationships and prosocial behavior (e.g., sharing, supporting, helping), particularly in the development of adolescent postsecondary goals, motivation, and preparation (Memmott-Elison et al., 2020; Moilanen et al., 2010).

Lastly, the current study identified peer relationships significantly impacting academic motivation through internalized behavior. However, results show that despite lower levels of perceived negative internalized feelings, the impact on rural adolescent college and career readiness remained non-significant. These results are divergent from previous scholarship that found the experience of positive and negative internalized behaviors are associated with adolescent engagement and subsequent aspirations and achievement (McLeod et al., 2012; Pascoe et al., 2020; Vuolo et al., 2014). This may result from other factors unmeasured in the study, such as self-regulation, understood to be how individuals manage their emotions, think constructively, and regulate or direct their behavior (Martin & McLellan, 2008). An adolescent's self-regulating ability can support resilience, goal setting, and academic preparation, potentially mitigating the impact of limited peer relationships or negative internalized and externalized behaviors (Dias & Cadime, 2017). These results demonstrate the need for further investigation into elements of rurality, such as socialization and the development of rural adolescent mattering (Schmidt et al., 2020), that may shape how rural students manage internalized behaviors and establish expectations for postsecondary attainment.

The current study supports scholarship that notes the critical role of social and emotional health among rural adolescents. Rural educators may look to these findings to

inform the development of postsecondary preparation programming that emphasizes academic rigor and the development of prosocial relationships between peers. How a school fosters a positive learning environment and a sense of identity or belonging may influence the nature and strength of existing peer connections and social supports (Aldridge et al., 2018). This, in turn, impacts mental and behavioral health outcomes (Evans et al., 2016). By centering prosocial and supportive relationships in a school's culture, barriers to healthy peer connections, such as bullying, victimization, and delinquency, may be reduced (Fu et al., 2021), subsequently increasing positive social, emotional, and academic outcomes. Drawing from positive social norms and values that often exist within rural communities, schools and educators may be able to shift existing energy and resources toward social and emotional health support. This might look like an increased focus on civic engagement opportunities for all students within a school (Luengo Kancri et al., 2020; Wray-Lake et al., 2019), development of near-peer student mentoring programs (Destin et al., 2018), or greater attention to family–school–community partnerships within rural communities that have been identified as contributing to youth academic and behavioral success (Sheridan et al., 2017).

## Limitations

This study is not without limitations. One limitation stems from the cross-sectional nature of the study sample. The data analyzed represents a snapshot in time for participants and is not representative of the fluctuating nature of peer relationships, behavioral health, or academic and career aspirations. Future studies should longitudinally examine the association between peer relationships, internalized and externalized behaviors, and educational attainment to provide insights into the ongoing impact of adolescent peer relationships and how they shape social and emotional health in contexts later in life. Second, despite a large sample size, data collected for this study was from a single geographic region in the Midwest of the United States. Therefore, this data may not be representative of all rural American adolescents. Future research should seek to incorporate greater geographic and racial/ethnic diversity to provide a more accurate depiction of the role peer relationships have on the educational attainment of rural adolescents and investigate random subsamples of rural youth to assess the applicability of the model and significant results within samples of varying effect size.

## Conclusion

This study's primary aim was to investigate rural adolescent peer relationships, their impact on externalized and internalized behaviors, and the subsequent impact on academic motivation and college and career readiness. Through a greater understanding of these factors, rural adolescents' perception of their self-efficacy and ability to succeed in any postsecondary pathway can be positively impacted. Through targeted support and intervention, informed by this study's identified mechanism of influence, educators, caregivers, and school mental health professionals can contribute to enhanced academic

and developmental outcomes for rural adolescents. As such, rural schools and educators should work to capitalize on the unique attributes of their communities and school structures to develop safe and equitable learning environments that foster positive, supportive, prosocial peer relationships.

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*Theory & Practice in Rural Education (TPRE)*
2024, Vol. 14, No. 1, Pp. 99-126
Copyright 2024 ISSN:2641-7170
https://doi.org/10.3776/tpre.2024.v14n1p99-126

# Rurality and Resources: Influence of High School and Individual Characteristics on Postsecondary Participation

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This study explores a cohort of rural high school students' participation in postsecondary education within three years of graduation. We use the National Center for Educational Statistics (NCES) 's High School Longitudinal Study of 2009 (HSLS2009) and logistic regression to answer our research questions. We found that many rural students plan to attend college and even apply to college; however, this did not mean that students would attend college. Also, counselors spending 20 to 50 percent of their time on college support positively affected students' college enrollment.

***Keywords*: multilevel linear modeling, rural students, college-going**

During the 2010 census, rural areas comprised 97% of the United States land mass, and nearly 20% of the population lived in rural areas (Ratcliffe et al., 2016). As rural populations are typically spread thin across the country (Showalter et al., 2019), rural students are at exceptional risk of falling through the cracks of the nation's educational system. The act of overlooking some rural populations is not restricted merely to policymakers or the American public; educational researchers are also complicit. In a systematic mapping review, Thier et al. (2021) found notable geographic disparities in the rural populations investigated in peer-reviewed publications. Several states in the Northeast, Upper Midwest, and the West were labeled "research deserts" due to their marginal presence within the literature on rural students. This is a concerning trend as variation among rural communities across the United States is substantial. These differences range from the characteristics of individual rural residents to regional and state contexts (Dobis et al., 2021; Showalter et al., 2019). Particularly within educational research, the implications of these differences must be given proper consideration.

Economic disparities drive many of the remarkable differences among various rural populations. Collectively, rural locales experience poverty more frequently and severely than other locales (Farrigan, 2020). However, most high and persistent impoverished rural counties are disaggregated and concentrated within the southern United States (Dobis et al., 2021; Lavalley, 2018; Farrigan, 2020; Marré, 2017). As defined by the Economic Revenue Service (ERS), persistent poverty counties are those where "20% or more of their populations were living in poverty based on the 1980, 1990, and 2000 decennial censuses" (Farrigan, 2022). In 2015, 71% of the 301 persistent poverty counties identified by the ERS were southern and rural. Rural counties' economic and racial characteristics also influence the geographic distribution of poverty. Counties whose economies are based primarily on agriculture, manufacturing, or natural resource extraction face poverty more frequently than their more service-oriented counterparts (Dobis et al., 2021). Persistent poverty is also more likely to affect counties that have highly concentrated Black, Hispanic, and Native American populations (Dobis et al., 2021; Farrigan et al., 2020). The abundance of factors driving rural poverty showcases the individuality of rural communities.

In the same way, poverty affects some rural communities' economies more than others; disparities also exist in the educational services provided by rural schools. Overall, rural schools and educators have a demonstrated capacity to deliver exceptionally high-quality educational experiences. For example, the finding is that rural students graduate high school at higher rates than their nonrural counterparts (NCES, 2023). However, recent studies indicate that the most impoverished rural counties face the most significant restrictions in broadband internet access (Dobis et al., 2021) and below-average high school completion rates (Farrigan, 2022). While some schools thrive, others face tremendous shortfalls in funding and access to career and college-ready programming (Showalter et al., 2019). Poverty has also been tied to rural out-migration, with all rural population loss occurring between 2010 and 2020 within persistently poor counties (Dobis et al., 2021). Such circumstances have a marked effect on the educational contexts rural students are exposed to. As highly educated rural adults continue to relocate to urban areas, the gap in educational attainment between urban and rural communities is only increasing (Marré, 2017). Ultimately, low postsecondary attainment in many rural communities is associated with higher unemployment and poverty rates (U.S. BLC, 2021), increasing the likelihood of low postsecondary attainment. In this way, educational disparities caused by poverty can become self-perpetuating, making them exceedingly challenging to address.

Beyond comparisons of rural economies, investigations of rural students' college-going aspirations and behaviors also focus on community, school, family, and student characteristics (e.g., Agger et al., 2018; McKillip et al., 2012; Nelson, 2016). These highly interdependent factors shape rural students' educational aspirations and attainment (Nelson, 2016; Schafft, 2016). Such a nuanced approach is practical when investigating

differential educational access within and between rural communities. Given the highly idiosyncratic nature of rural places and populations, place-based investigations of rural students make exceptionally valuable contributions to the extant body of literature. As such, this study was designed to explore the influences of family and high school on college-going in rural students.

## Literature Review

Rural students' educational experiences, college aspirations, and college-going behaviors differ noticeably from those of their urban and suburban counterparts. Historically, rural students' college enrollment has lagged that of their nonrural counterparts (Koricich et al., 2018; Wells et al., 2019). Although there is no significant difference between urban and rural students' immediate college enrollment rates, suburban students have maintained substantially higher enrollment rates (NSCRC, 2021). Rural students who pursue a postsecondary education also stand apart from urban and suburban college students. Notably, rural college students attend two-year colleges more frequently than four-year institutions and are typically less academically prepared for college than their peers (Byun et al., 2012a; Morton et al., 2018). It should be noted that these differences are not driven by rural students' apathy toward higher education, as rural students' educational aspirations are often comparable to those of urban students (Molefe et al., 2017). Instead, community, school, and student characteristics commonly drive rural students' unique postsecondary experiences (e.g., Agger et al., 2018; McKillip et al., 2012; Nelson, 2016; Schafft, 2016).

### Community Characteristics

While trepidation about leaving home is a common experience among many prospective college students, it appears to be a particularly salient factor in rural students' college-going decisions. Most college students choose to attend institutions within 50 miles of their permanent home (Eagan et al., 2014; Hillman, 2019; Stolzenberg et al., 2020). Rural students tend to express stronger family and community ties when compared to nonrural students (Byun et al., 2012b; Hillman, 2016) and thus may be more reluctant to attend a college far from their community—rural students who choose to stay close to home face limited postsecondary options. Rural students are more likely than their nonrural counterparts to reside in educational deserts, defined as "a local area where there are either zero or only one public broad-access colleges nearby" (Hillman, 2019, p. 3). An estimated 51% of postsecondary institutions situated in rural areas are community colleges that grant certificates and associate degrees (Hillman et al., 2021). Rural students are approximately 20% more likely to attend two-year colleges (Koricich et al., 2018). Still, only 25% of these students transfer to a four-year institution to attain a bachelor's degree (Byun et al., 2017).

## School Characteristics

Related to rural students' exceptionally strong community ties, rural educators and school staff play a prominent role in developing rural students' college-going attitudes and behaviors. In rural areas, especially schools serve a unique role as community anchors (Bauch, 2001; Schafft, 2016). Furthermore, in a qualitative study, Tran et al. (2020) found that teachers in rural schools noted the tight connections between the school, community, and families. This community support is provided more to rural students than their nonrural counterparts (Byun et al., 2012b). Although parents may often provide limited college information among prospective first-generation students, the knowledge and guidance provided by teachers, school counselors, and college advisors can serve as a valuable resource throughout the college-going process (McKillip et al., 2012; Morton et al., 2018). Rural schools tend to have smaller class sizes (Tran et al., 2020), and thus, teachers and counselors may have more time to interact with the students. Teachers' expectations have been positively related to rural students' educational aspirations and attainment (Byun et al., 2012c; Byun et al., 2017; Means, 2019). Rural school counselors also have the potential to serve as a powerful source of college information for students. Still, the limited research addressing their influence on rural students' educational outcomes is sometimes contradictory. Robinson and Roksa (2016) found that visiting school counselors positively relate to applying to a four-year institution. Conversely, Morton et al. (2018) students report that school counselors were unwilling to disclose information about college. When considering rural schools' characteristics, these sources of human capital should not be overlooked.

Rural students' college-going behaviors have also been associated with various school characteristics. The National Student Clearinghouse Research Center (NSCRC) tracks postsecondary enrollment trends based on high schools' poverty, income level, concentration of minority students, and rurality (2021). A sizeable body of literature has demonstrated how these factors shape rural students' educational experiences. Students from high-poverty high schools were less likely to enroll in college immediately after graduation (NSCRC, 2021). Logan and Burdick-Will (2017) also found that rural schools with high minority populations had lower math and reading proficiency scores on standardized tests. In general, attending a rural school has been related to such outcomes as lower postsecondary enrollment (NSCRC, 2021), enrollment at less competitive postsecondary institutions (Byun et al., 2012a; Koricich et al., 2018), and higher rates of undermatching in college enrollment (Lee et al., 2017), especially when the student lives more than 50 miles away from a match school (Ovink et al., 2018).

Inadequate academic preparation is a theme that frequently emerges in discussions of rural students' college access (e.g., Byun et al., 2012a; Hudacs, 2020; Mokher et al., 2019; Morton et al., 2018; Ovink et al., 2018). This reflects one of the significant disparities between various rural schools: access to advanced coursework.

Advanced Placement (A.P.) and dual enrollment (D.E.) are the most widely available forms of advanced learning offered to American high school students (Thomas et al., 2013). Gagnon and Mattingly (2016) found that access to A.P. courses is most limited within rural schools serving small, remote, and impoverished communities. Even when A.P. and D.E. courses are available, rural schools tend to have lower A.P. course participation (LeBeau et al., 2019; Mokher et al., 2019). Furthermore, low-income students are less likely to enroll in either type of course (Rivera et al., 2019). Such disparities suggest that opportunities for academic preparation vary across rural communities. This is exemplified by the rural students interviewed by Morton et al. (2018), who reported vastly different access levels to school resources like advanced coursework and high school counselors.

### Student and Family Characteristics

Several studies have explored the effects of rural students' background characteristics on their educational attainment. In this research, individual-level attributes like gender, race, and socioeconomic status markedly influenced rural students' academic outcomes. Notably, women's educational attainment is typically higher than men's in rural communities (Marré, 2017). This may be related to the finding that female students are more likely to enroll in college in times of economic prosperity than males (Agger et al., 2018). Students of color also face educational barriers within rural communities. These students experience persistent poverty more than twice as often as urban minority students (Dobis et al., 2021). Across all marginalized student populations, Hispanic students face the most significant disparities in educational attainment between rural and urban locales (Byun et al., 2012a). Consequently, rural students of color are less likely to graduate than their White peers (Lavalley et al., 2018). These findings demonstrate how widely students' educational outcomes may vary even within the same rural community. Therefore, investigations of rural students' academic attainment must be mindful of students' identities.

Of course, rural parents' influences also play a crucial role in shaping their children's educational outcomes. For example, parental educational attainment and family income relate to rural students' postsecondary enrollment patterns and college persistence (Byun et al., 2017; Hudacs, 2020). Career and college aspirations, postsecondary enrollment, and degree completion similarly relate to parental educational expectations (Byun et al., 2012a; Byun et al., 2012b; Means, 2019). Furthermore, parental financial support and involvement during the college search and enrollment process influence rural students' educational attainment (King, 2012; Nelson et al., 2021).

## The Present Study

This study aimed to explore the effect of individual and high school characteristics on participation in postsecondary education by a cohort of rural high

school students within three years of graduation. This study was designed to answer the following question:

What is the relationship between rural high school students' demographic characteristics, educational experiences, and high school characteristics on participation in postsecondary education?

We model participation in postsecondary education in three ways:

1. Intent to obtain an associate degree or higher in the ninth grade.
2. Applied or registered for college within three years of high school graduation.
3. Attended college within three years of high school graduation.

## Theoretical Framework

We take an asset-based approach to this study. This framework allows us to center the individuals in the research and the factors related to their success rather than comparing them to a different group and focusing on their deficits (Cooper & Hawkins, 2016; Harper, 2010; Harper, 2012; Lee, 2020). This perspective influenced our study as it informed the selection of the population sample (rural high school students who attend college) and our focus on high school characteristics that influence college-going.

We also use Perna's (2006) model of college choice, which integrates the perspective of human capital theory (HCT) with the sociological concepts of habitus, social capital, and cultural capital. Perna's model conceptualizes college choice as a cost-benefit analysis wherein individual and societal factors influence college attendance's perceived costs and benefits. Recognition of academic preparation and financial resources as influential factors in this evaluation is also adopted from HCT's notions of implicit and explicit costs. Social and cultural capital also provide an understanding of the formation of college choice. As used in the model of college choice, cultural capital refers to an individual's knowledge and behavioral characteristics, which are heavily influenced by their parents' social class.

On the other hand, social capital refers to how an individual establishes, maintains, and navigates social networks. Finally, habitus refers to the external influences, such as systemic barriers or features of one's immediate environment, that shape an individual's disposition toward higher education. Habitus is an exceptionally valuable concept in investigating rural students' postsecondary choices. As conceptualized by this study, high school counselors can bridge social and cultural capital gaps related to access to postsecondary education.

Perna's (2006) model posits that contextual factors shape individuals' perceptions of the costs and benefits of higher education. These factors are conceptualized as four spheres of influence: the individual's habitus, school and community context, higher education context, and the broader social, economic, and policy context. As the first

sphere of Perna's model, habitus includes individuals' demographic characteristics, social and cultural capital, and locale. The second sphere reflects the influence of school resources and characteristics on college choice. Next, the higher education context addresses how postsecondary institutions' characteristics, means of conveying information to students, and competitiveness influence student decisions. The fourth layer, which is the broadest, speaks to the policy-driven messaging or circumstances that shape the perceived costs and benefits of college attendance.

With its consideration of contextual influences on the perceived net value of higher education, Perna's model is a powerful framework for evaluating differences across groups in college-going outcomes. As we are interested in evaluating numerous influences on rural students' college-going decisions, this model's view of college choice as a contextually dependent process is exceptionally well-suited for the current investigation. Accordingly, Perna's interpretation of both habitus and school and community characteristics provides an especially fitting perspective for interpreting this study's findings.

## Methods

The data set used for this study was obtained from the National Center for Educational Statistics (NCES) High School Longitudinal Study of 2009 (HSLS:2009). The HSLS:2009 collected data on students' high school experiences, later following up to capture their postsecondary and labor market experiences. NCES created the nationally representative sample using strata sampling by randomly selecting 944 high schools. Twenty-three thousand students in the ninth grade in 2009 were selected from these schools. The students completed surveys about their educational and family experiences and cognitive assessments in algebraic skills, reasoning, and problem-solving. Their parents, teachers, principals, and counselors completed questionnaires as well. Follow-up surveys were subsequently given in 2012 and 2016.

Our analytical sample for this study is limited to students at high schools designated as rural. The NCES definition of rural used in the initial sampling frame was a census-defined territory five or more miles from an urbanized area or 2.5 miles or more from an urban cluster. We further limited the sample to include only those students who completed the initial survey and the two follow-up questionnaires. The final analytical sample included 3,700 students.

The primary outcome of interest in this study was postsecondary enrollment. We broke it out into three main dependent variables, including (1) intent to obtain a college degree (associates and above) in the ninth grade, (2) applied or registered at a postsecondary institution within three years of high school graduation, and (3) attended a postsecondary institution within three years of high school graduation. The independent variables were separated into two categories: the student's background and educational characteristics and their high school characteristics. Background and educational

characteristics consisted of gender, race/ethnicity, family income, highest math class taken in high school, parental educational attainment, and parental educational expectations for the student. High school characteristics consisted of the expected time counselors devoted to college advising, the percentage of students receiving free or reduced lunch, college preparation supports provided by the high school, and two constructs measured from the counselor's perspective. The first construct measured the counselor's perceptions of their expectations of the students. Second, we measured the counselor's perception of the principal's expectations of the students. We conducted a Block binary logistical regression for each dependent variable to predict our three dependent variables. We used two blocks, one for the students' demographic characteristics and the second for the school characteristics.

## Results

### Descriptive Analyses of Students' Plans for and Enrollment in College

For the dependent variables, shown in Table 1, about 20% of students did not know how far they would go regarding education. The following highest percentage expected to earn an advanced degree (e.g., Ph.D.), and about 15% expected to earn a bachelor's degree. This was closely followed by those who expected to earn a high school diploma or GED, which comprised 13% of the sample. Around 55% are expected to earn an associate degree or higher. Three years after high school graduation, over half the students had applied to or registered for college, and about 38% were either enrolled or had earned a degree. For our analyses, we combined the students who did not know with the unit non-response, so they were not included in the binary variable. Additionally, for the second and third research questions, the analysis sample was restricted to those who responded to the second follow-up survey and graduated high school. Therefore, the number of participants in the analysis is lower.

**Table 1**

*Descriptive Statistics of Categorical Dependent Variables*

| Variable | *n* | Percentage |
|---|---|---|
| How far in school 9th grader plans to go | | |
| Less than high school | 30 | 0.4 |
| High school diploma or GED | 740 | 12.6 |
| Start an associate degree | 40 | 0.8 |
| Complete an associate degree | 340 | 5.9 |
| Start a bachelor's degree | 20 | 0.4 |
| Complete a bachelor's degree | 860 | 14.7 |
| Start a master's degree | 50 | 0.8 |
| Complete a master's degree | 920 | 15.8 |
| Start a Ph.D./M.D./Law/other professional degree | 40 | 0.6 |
| Complete a Ph.D./M.D./Law/other professional degree | 980 | 16.8 |
| Do not know | 1,140 | 19.4 |
| Whether a student applied to or registered at a college | | |
| Never applied or registered | 640 | 16.4 |
| Applied or registered | 3,250 | 83.6 |
| Attainment and persistence at any institution | | |
| Attained bachelor's degree | 10 | 0.5 |
| Attained associate degree | 190 | 6.7 |
| Attained certificate | 200 | 7.2 |
| No degree, enrolled at a 4-year institution | 1,340 | 47.6 |
| No degree, enrolled at less than a 4-year institution | 410 | 14.7 |
| No degree, not enrolled | 660 | 23.4 |

*Note.* Percentages do not equal 100% due to missing, unit non-response, or item legitimate skip. The National Center for Education Statistics requires that all descriptive statistics be rounded to the nearest ten to protect student privacy.

*Source:* U.S. Department of Education, The High School Longitudinal Study of 2009 (HSLS:09), Restricted Dataset.

## Descriptive Analyses of Student and School Variables

As shown in Table 2, the analytical sample comprised almost equal men and women. White students comprised about 50% of the sample, with Hispanic, Black/African-American, and Asian students comprising the most significant percentages following that. Most studies on rural college-going populations had a significantly higher rate of White participants than our study (see Byun et al., 2017; Chenoweth & Galliher, 2004; Roscigno & Crowley, 2001). The lower number of White participants in our study may be due to a recent increase in Hispanic and American Indian populations and a decrease in White growth in rural areas (USDA, 2018). Family income averaged between

$35,000 per year and $75,000 per year, with the highest income being more than $235,000 per year.

Regarding the highest-level math classes students took in high school, those most frequently taken were Algebra II and Precalculus. Parents most frequently held a high school diploma or GED (28.4%), with the next largest group being those with a bachelor's degree (13.9%). The percentage of parents with bachelor's degrees was much lower than the national samples, which show around 41% (Hussar et al., 2020). The most frequently reported parental educational expectation was a bachelor's degree, with expectations of an advanced degree (e.g., Ph.D.) listed second. In line with national trends, most parents expect their children to earn a bachelor's degree or more. This matches what we see in national samples – parents expect more from their children (Taylor et al., 2011).

**Table 2**

*Descriptive Statistics of Categorical Independent Variables*

| Variable | *n* | Percentage |
|---|---|---|
| Student variables | | |
| Gender | | |
| Female | 2,820 | 48.1 |
| Male | 3,040 | 51.8 |
| Race | | |
| American Indian/Alaska Native, non-Hispanic | 50 | 0.9 |
| Asian, non-Hispanic | 460 | 7.9 |
| Black/African-American, non-Hispanic | 630 | 10.8 |
| Hispanic, no race specified | 140 | 2.3 |
| Hispanic, race specified | 780 | 13.4 |
| More than one race, non-Hispanic | 440 | 7.5 |
| Native Hawaiian/Pacific Islander, non-Hispanic | 20 | 0.4 |
| White, non-Hispanic | 3,000 | 51.1 |
| Family Income | | |
| Less than or equal to $15,000 | 380 | 6.5 |
| Greater than $15,000 through $35,000 | 860 | 14.7 |
| Greater than $35,000 through $55,000 | 770 | 13.1 |
| Greater than $55,000 through $75,000 | 650 | 11.1 |
| Greater than $75,000 through $95,000 | 430 | 7.4 |
| Greater than $95,000 through $115,000 | 320 | 5.4 |
| Greater than $115,000 through $135,000 | 190 | 3.2 |
| Greater than $135,000 through $155,000 | 130 | 2.3 |
| Greater than $155,000 through $175,000 | 60 | 1.0 |
| Greater than $175,000 through $195,000 | 50 | 0.9 |
| Greater than $195,000 through $215,000 | 40 | 0.7 |
| Greater than $215,000 through $235,000 | 10 | 0.2 |
| Greater than $235,000 | 90 | 1.5 |

| Variable | *n* | Percentage |
|---|---|---|
| Highest math class taken in high school | | |
| No math | 100 | 1.8 |
| Basic math | 40 | 0.7 |
| Other math | 60 | 1.0 |
| Pre-algebra | 50 | 0.9 |
| Algebra I | 320 | 5.5 |
| Geometry | 520 | 8.8 |
| Algebra II | 1,360 | 23.2 |
| Trigonometry | 240 | 4.1 |
| Other advanced math | 710 | 12.1 |
| Probability and statistics | 200 | 3.3 |
| Other AP/IB math | 60 | 1.0 |
| Precalculus | 940 | 16.1 |
| Calculus | 250 | 4.2 |
| AP/IB Calculus | 430 | 7.3 |
| Parent's highest level of education | | |
| Less than high school | 290 | 4.9 |
| High school diploma or GED | 1,660 | 28.4 |
| Associate degree | 680 | 11.6 |
| Bachelor's degree | 820 | 13.9 |
| Master's degree | 370 | 6.4 |
| Educational Specialist diploma | 20 | 0.4 |
| Ph.D./M.D./Law/other high-level professional degree | 150 | 2.5 |
| Parent's expectations for student's highest level of education | | |
| Less than high school | 20 | 0.3 |
| High school diploma or GED | 380 | 6.5 |
| Start an associate degree | 40 | 0.7 |
| Complete an associate degree | 370 | 6.3 |
| Start a bachelor's degree | 30 | 0.4 |
| Complete a bachelor's degree | 1,160 | 19.7 |
| Start a master's degree | 10 | 0.2 |
| Complete a master's degree | 700 | 11.9 |
| Start a Ph.D./M.D./Law/other professional degree | 10 | 0.2 |
| Complete a Ph.D./M.D./Law/other professional degree | 810 | 13.8 |
| Don't know | 470 | 7.9 |
| School variables | | |
| Expected time counselor spends on college advising | | |
| 5% or less | 30 | 0.5 |
| 6%-10% | 1,110 | 18.9 |
| 11%-20% | 2,010 | 34.3 |
| 21%-50% | 1,770 | 30.1 |
| More than 50% | 430 | 7.3 |
| Percentage of students received free/reduced lunch | | |

| Variable | *n* | Percentage |
|---|---|---|
| 0% | 130 | 2.2 |
| More than 0% but less than 10% | 380 | 6.5 |
| At least 10% but less than 20% | 650 | 11.2 |
| At least 20% but less than 30% | 960 | 16.4 |
| At least 30% but less than 40% | 890 | 15.1 |
| At least 40% but less than 50% | 690 | 11.8 |
| At least 50% but less than 60% | 710 | 12.1 |
| At least 60% but less than 70% | 670 | 11.5 |
| At least 70% but less than 80% | 110 | 1.9 |
| At least 80% but less than 90% | 90 | 1.6 |
| At least 90% but less than 100% | 30 | 0.5 |
| 100% | 90 | 1.6 |
| College preparation support provided by high school (yes) | | |
| A.P. courses offered on-site | 4,580 | 78.1 |
| Counselor designated for college preparation | 3,050 | 52.0 |
| Holds or participates in college fairs | 5,060 | 86.3 |
| Organizes student college visits | 3,460 | 59.0 |
| Offers college preparation – Upward Bound/GEAR UP/AVID/MESA | 2,480 | 42.2 |
| Holds information sessions on transition to college | 5,200 | 88.7 |
| Assists students with college financial aid | 5,280 | 90.0 |
| Provides opportunities for dual/concurrent enrollment | 5,120 | 87.3 |
| Takes other steps to assist H.S. with college transition | 1,870 | 31.9 |
| Courses not offered at school are available at community College | 4,120 | 70.3 |
| Courses not offered at school available at 4-year college | 2,550 | 43.5 |
| Supports students with A.P./college/university courses | 5,130 | 87.5 |

*Note.* Percentages do not equal 100% due to missing, unit non-response, or item legitimate skip. The National Center for Education Statistics requires that all descriptive statistics be rounded to the nearest ten to protect student privacy.

*Source:* U.S. Department of Education, The High School Longitudinal Study of 2009 (HSLS:09), Restricted Dataset

For the high school variables, counselors are most frequently expected to spend 11 to 50% of their time on college advising. About half the schools had a counselor specifically designated for college preparation. Additionally, most schools reported that between 10 and 70% of the student population received free or reduced lunch. Regarding college preparation provided by high schools, the supports most frequently supplied by schools included offering A.P. courses on-site, participating in or hosting college fairs, assisting students with college financial aid, holding information sessions on college transition, providing opportunities for dual or concurrent enrollment, and supporting students with A.P./college/university courses.

To collapse the variables for the college preparation supports provided by high schools, we converted the variables into one continuous variable. This allowed us to assess if there was a relationship between the number of supports provided and our dependent variables. The descriptive statistics for this continuous variable are displayed in Table 3. Rural high schools generally provided three to twelve different kinds of support towards postsecondary education, with a mean of nine.

**Table 3**

*Descriptive Statistics of College Preparation Supports Provided by High School*

| Variable | *n* | Minimum | Maximum | M | SD | Skewness | Kurtosis |
|---|---|---|---|---|---|---|---|
| College preparation support provided by high school | 5,040 | 3 | 12 | 8.9 | 1.6 | –.7 | 1.1 |

*Source:* U.S. Department of Education, The High School Longitudinal Study of 2009 (HSLS:09), Restricted Dataset.

Additionally, we conducted a cross-tabulation on the categorical variables to ensure that each combination of independent and dependent variables would be five percent or more of the total data for that specific variable. After this analysis, we collapsed family income, race, highest math class taken in high school, highest degree earned by either parent, how much time counselors spent advising for college, and the percentage of students receiving free or reduced lunch. Because we were analyzing how these variables affected students' expectations of earning an associate degree or higher, we collapsed the variable of parents' expectations for students' highest level of education into expecting them to earn an associate degree or higher or not. In terms of the other independent variables, we collapsed the variable of ninth-grade students' expectation of the highest degree they will earn into whether they expect to earn an associate degree or higher or not (binary).

## Regressions

### *Ninth Grade Students' Intent to Obtain an Associate Degree or Higher.*

Our first regression analysis, see Table 4, addressed ninth-grade students' expectations and intent to obtain an associate degree or higher. We included the school characteristics in our second block, but this did not significantly change the findings for our characteristics. Both models were statistically significant, with our variables predicting the ninth-grade students' intent to receive a college degree, with the percentage predicted around 66%. Female rural students were 23% more likely than males to intend to earn an associate degree or higher. In terms of race, Hispanic and Asian students were about 40% less likely than White students to plan to earn an associate degree or higher. Notably, the findings for Asian students differed from those usually seen in studies with students from all locales. This means that when viewed nationally, Asian students are

generally similar to White students in their plans for and attendance in college (Hussar et al., 2020); however, in this analysis, and with a rural population, this does not seem to be the case.

**Table 4**

*Hierarchical Multiple Regression for Variables' Effects on Ninth-Grade Students Expectation of Earning an Associate Degree or Above*

| Variable | Block 1 | | Block 2 | |
|---|---|---|---|---|
| | Odds Ratio | *S.E.* | Odds Ratio | *S.E.* |
| Gender (male students) | | | | |
| Female | 1.23* | .07 | 1.23* | .07 |
| Race (White) | | | | |
| American Indian/Alaska Native, more than one race, Pacific Islander, Hawaiian | 1.16 | .12 | 1.14 | .12 |
| Asian | 0.57** | .12 | 0.58** | .12 |
| Black/African-American | 1.02 | .12 | 0.98 | .11 |
| Hispanic | 0.60** | .09 | 0.59** | .09 |
| Family income in dollars (greater than 75,000) | | | | |
| 0-35,000 | 0.71* | .11 | 0.68** | .11 |
| More significant than 35,000 through 75,000 | 0.87 | .10 | 0.85 | .10 |
| Highest math class taken in high school (Advanced (other advanced, probability and statistics, other AP/IB, precalculus, calculus, AP/IB calculus) | | | | |
| Basic (None, basic, other basic, pre-algebra, algebra I & 2, geometry, trigonometry) | 0.59** | .07 | 0.58** | .07 |
| Parents have a bachelor's degree or higher | | | | |
| (No) | | | | |
| Yes | 1.47** | .10 | 1.50** | .10 |
| Parents expect students to earn an associate or higher (No) | | | | |
| Yes | 2.52** | .09 | 2.54** | .09 |
| Percentage of students at school with free or reduced lunch (60% and above) | | | | |
| 0 up to 20% | | | 0.77* | .11 |
| 20% up to 40% | | | 0.80* | .10 |
| 40% up to 60% | | | 0.82* | .10 |
| Percentage of counselor's time spent on college prep (in hours) (50 and above) | | | | |
| Ten or less | | | 1.06 | .15 |
| 11-20 | | | 1.06 | .14 |
| 21-50 | | | 1.01 | .13 |
| Counselors' perception of counselors' expectation of students | | | 1.04 | .04 |

| | | |
|---|---|---|
| Counselors' perception of principals' expectation of students | 0.97 | .02 |
| College prep support provided by the school | 1.01 | .02 |
| | –2 log likelihood = 5571.09<br>% predicted = 66.2 | –2 log likelihood = 5560.08<br>% predicted = 66.5 |

*Note. N* = 4,510. The referent category is in parentheses.

*$p < 0.05$. **$p < 0.001$.

*Source:* U.S. Department of Education, The High School Longitudinal Study of 2009 (HSLS:09), Restricted Dataset.

Students with a meager family income (earning up to $35,000) were approximately 30% less likely than those with a high family income (earning $75,000 or more) to plan to earn an associate degree or higher. The students who took basic math classes were around 40% less likely than those who took advanced math classes to plan to earn an associate degree or higher. If at least one parent had a bachelor's degree or higher, the student was 47% more likely to plan to earn an associate degree or higher. Similar to past research findings, if students' parents expected them to earn an associate degree or higher, they were 152% more likely to plan to earn an associate degree or higher. The only statistically significant school variable was the percentage of the student population who received free or reduced lunch. The students in schools with less of the school population receiving free or reduced lunch were less likely to expect to earn an associate degree. This contradicts most studies that show communities with higher SES related to increased college-going rates.

### *Variables' Effects on Students Applying to College Within Three Years.*

The second regression analysis, as shown in Table 5, addressed whether the students applied to college within three years of graduating high school. This model was statistically significant for both blocks, with the percent predicted being around 67.5. Most statistically considerable family variable predictions and percentages remained close to the same in both blocks. In Block 2, females were 49% more likely to have applied to college than males. In terms of race, Asian students were 57% more likely than White students to have applied to college. This was a decrease from 65% in Block 1.

Additionally, this is in contrast to ninth-grade Asian students being much less likely than White students to state they would like to earn an associate degree or higher from our first regression. Also, Black/African American students were 38% more likely than White students to apply to college. Interestingly, this finding is counter to much of the national research on rates of Black students attending college as compared to White students. Black students tend to attend college at a slightly lower rate than White students (Hussar et al., 2020); however, in these analyses of rural students, with high school characteristics controlled, they were much more likely to apply to college. For family

income, students earning up to $35,000 were 27% less likely to have applied to college than those earning over $75,000. The students who took basic math classes were 49% less likely than those who took advanced math classes to have applied to college. If at least one parent had a bachelor's degree or higher, the student was 48% more likely to have applied to college (a decrease from 53% in Block 1). If the parents expected the student to earn an associate degree or higher, they were 104% more likely to have applied to college. None of the school variables were statistically significant.

**Table 5**

*Hierarchical Multiple Regression for Variables' Effects on Students' Applying to College*

| Variable | Block 1 | | Block 2 | |
|---|---|---|---|---|
| | Odds Ratio | *S.E.* | Odds Ratio | *S.E.* |
| Gender (Male) | | | | |
| Female | 1.50** | .07 | 1.49** | .07 |
| Race (White) | | | | |
| American Indian/Alaska Native, more than one race, Pacific Islander, Hawaiian | 1.07 | .12 | 1.08 | .12 |
| Asian | 1.65** | .14 | 1.57* | .14 |
| Black/African-American | 1.40* | .12 | 1.38* | .12 |
| Hispanic | 0.90 | .09 | 0.89 | .09 |
| Family income in dollars (Greater than 75,000) | | | | |
| 0-35,000 | 0.71* | .11 | 0.73* | .12 |
| Greater than 35,000 through 75,000 | 0.85 | .12 | 0.87 | .12 |
| Highest math class taken in high school (Advanced (other advanced, probability and statistics, other AP/IB, precalculus, calculus, AP/IB calculus)) | | | | |
| Basic (None, basic, other basic, pre-algebra, algebra I & 2, geometry, trigonometry) | 0.51** | .07 | 0.51** | .07 |
| Parents have a bachelor's degree or higher (No) | | | | |
| Yes | 1.53** | .10 | 1.48** | .10 |
| Parents expect students to earn an associate or higher (No) | | | | |
| Yes | 2.04** | .09 | 2.03** | .09 |
| Percentage of students at school with free or reduced lunch (60% and above) | | | | |
| 0 up to 20% | | | 1.24 | .11 |
| 20% up to 40% | | | 1.00 | .10 |
| 40% up to 60% | | | 1.01 | .10 |

| | | |
|---|---|---|
| Percentage of counselor's time spent on college prep (in hours) (50 and above) | | |
| Ten or less | 1.14 | .15 |
| 11–20 | 1.06 | .14 |
| 21–50 | 1.27 | .14 |
| Counselors' perception of counselors' expectation of students | 1.05 | .04 |
| Counselors' perception of principals' expectation of students | 0.98 | .02 |
| College prep support provided by the school | 1.00 | .02 |
| | –2 log likelihood = 5194.74<br>% predicted = 67.2 | –2 log likelihood = 5178.10<br>% predicted = 67.6 |

*Note. N* = 4,280. The referent category is in parentheses.

*$p < 0.05$. **$p < 0.001$.

*Source:* U.S. Department of Education, The High School Longitudinal Study of 2009 (HSLS:09), Restricted Dataset.

### *Variables' Effects on Enrolling in College.*

The third regression analysis, see Table 6, analyzed whether the students had enrolled in college three years after graduation. This model was statistically significant; Blocks 1 and 2 predicted 71%. There were several differences in the findings from Block 1 to Block 2. In Block 1, females were 49% more likely to have enrolled in college than males. In terms of race, Asian students were 94% more likely than White students to have enrolled in college. This decreased to 72% in Block 2. This is a slightly higher rate than the national average (Hussar et al., 2020) and is in contrast to them being much less likely to plan to earn an associate degree or higher in ninth grade than their White peers. For family income, students earning up to $35,000 were 47% less likely to have enrolled in college than those earning over $75,000. This decreased to 41% in Block 2. Students whose families earned between $35,000 and $75,000 were 27% less likely than those who earned over $75,000 to enroll in college. This decreased to 23% in Block 2. The students who took basic math classes were 57% less likely than those who took advanced math classes to have enrolled in college. If at least one parent had a bachelor's degree or higher, the student was 87% more likely to have enrolled in college (this decreased to 75% in Block 2). If the parents expected the student to earn an associate degree or higher, they were 96% more likely to have enrolled in college (decreased to 91% in Block 2).

**Table 6**

*Hierarchical Multiple Regression for Variables' Effects on Enrolling in College*

| Variable | Block 1 | | Block 2 | |
|---|---|---|---|---|
| | Odds Ratio | *S.E.* | Odds Ratio | *S.E.* |

| | | | | |
|---|---|---|---|---|
| Gender (Male) | | | | |
| Female | 1.49** | .07 | 1.47** | .07 |
| Race (White) | | | | |
| American Indian/Alaska Native, more than one race, Pacific Islander, Hawaiian | 1.06 | .12 | 1.08 | .12 |
| Asian | 1.94** | .13 | 1.72** | .13 |
| Black/African-American | 0.96 | .12 | 0.97 | .12 |
| Hispanic | 0.91 | .10 | 0.91 | .12 |
| Family income in dollars (Greater than 75,000) | | | | |
| 0–35,000 | 0.53** | .11 | 0.59** | .11 |
| Greater than 35,000 through 75,000 | 0.73** | .10 | 0.77* | .10 |
| Highest math class taken in high school | | | | |
| Advanced (other advanced, probability and statistics, other AP/IB, precalculus, calculus, AP/IB calculus) | | | | |
| Basic (None, basic, other basic, pre-algebra, algebra I & 2, geometry, trigonometry) | 0.43** | .07 | 0.43** | .07 |
| Parents have a bachelor's degree or higher (No) | | | | |
| Yes | 1.87** | .09 | 1.75** | .09 |
| Parents expect students to earn an associate's or higher (No) | | | | |
| Yes | 1.96** | .10 | 1.91** | .10 |
| Percentage of students at school with free or reduced lunch (60% and above) | | | | |
| 0 up to 20% | | | 1.75** | .12 |
| 20% up to 40% | | | 1.37* | .10 |
| 40% up to 60% | | | 1.13 | .11 |
| Percentage of counselor's time spent on college prep (in hours) (50 and above) | | | | |
| Ten or less | | | 1.17 | .16 |
| 11-20 | | | 1.01 | .15 |
| 21-50 | | | 1.42* | .14 |
| Counselors' perception of counselors' expectation of students | | | 1.05 | .04 |
| Counselors' perception of principals' expectation of students | | | 0.97* | .02 |
| College prep support provided by the school | | | 0.98 | .02 |
| | –2 log likelihood = 5141.57<br>% predicted = 70.6 | | –2 log likelihood = 5086.21<br>% predicted = 71.3 | |

*Note. N* = 4,490. The referent category is in parentheses.

*$p < 0.05$. **$p < 0.001$.

*Source:* U.S. Department of Education, The High School Longitudinal Study of 2009 (HSLS:09), Restricted Dataset.

There were several statistically significant variables in this model regarding college support provided by the high school. First, if up to 20% of the students received free or reduced lunch, the students were 75% more likely, and if 20% to 40% of students received free or reduced lunch, then students were 37% more likely to have enrolled in college as compared to schools with 60% or more students receiving free or reduced lunch. This data contrasts our findings from the first regression, where the higher percentage of students receiving free or reduced lunch indicated a more significant percentage of students intending to enroll in college. However, the findings from regression three align with national data (Hussar et al., 2020). If the counselor spent between 21% and 50% of their time on college preparation, the students would be 42% more likely to enroll than students who had counselors who spent 50% or more on college preparation. Finally, the counselors' perception of their principals' expectations of the students was statistically significant, with an odds ratio of .97. This means that for every point the principal scored higher on the scale, the likelihood of the students enrolling in college decreased by three percent.

## Discussion

Guided by Perna's (2006) model of college choice, the present study investigated how rural students' college-going aspirations and decisions are related to characteristics of their habitus and school and community context. HSLS:2009 data were used to conduct three logistic regressions that assessed students' likelihood of intending to attain an associate degree or higher as well as applying to and enrolling in college within three years of high school graduation.

All three regressions supported other scholars' findings that student and family characteristics greatly inform rural students' college-going expectations and decisions (e.g., Byun et al., 2012a; Molefe et al., 2017; Nelson, 2016; Schafft, 2016). Gender, race, family income, highest math class taken in high school, and parents' education and expectations significantly impacted students' educational intentions, college applications, and enrollment. Several notable racial differences in student outcomes emerged across the analyses. Contrary to findings at the national level (Hussar et al., 2020), the rural Asian students in our sample were significantly less likely than White students to intend to attain an associate degree or higher. Furthermore, Asian students' likelihood to apply and enroll in college fell when school factors were introduced into the regression model. These findings suggest that rural Asian students face restricted access to appropriate college-going support compared to their nonrural counterparts.

On the other hand, Black students were much more likely than their White peers to apply to college. In contrast to Asian students, high school characteristics did not affect the likelihood of their college application. These findings ultimately suggest that school-

level factors play significantly different roles in the college-going aspirations and actions of White, Asian, and Black rural students.

Comparing the results of our first and third regression revealed a finding of great practical significance to rural education researchers and practitioners alike. There appears to be a significant disconnect between college-going intentions and enrollment outcomes for rural students at low SES schools. The first regression indicated that students were increasingly likely to intend to earn an associate degree or higher as the proportion of FRPL students at their school increased. This trend was reversed entirely when assessing the likelihood of students *attending* college; we found that schools with lower percentages of FRPL students were more likely to enroll in college. The latter finding is not particularly surprising given its alignment with previous research like the National Student Clearinghouse Research Center's (2021) *High School Benchmarks* report. The discrepancy between intentions and outcomes may indicate the presence of divergent paths from college-going intentions to college-going behaviors based on school SES. However, interactions between these variables were not assessed in this analysis. Further research is needed to understand better why the relationship between rural students' postsecondary aspirations and enrollment looks so different based on school SES.

Across all three of our analyses, the variables of college preparation support and counselor and the principal's expectations of students had no statistically significant impact except for the principal's expectation of students enrolling in college (question 3), which had a slightly negative effect. The mean of college support provided by the school was nine, which is relatively high. Additionally, counselors spent a significant amount of time on college counseling. This data indicates that the habitus sphere in Perna's (2006) model seems to be more influential on college enrollment than school resources and characteristics. Interestingly, these findings do not support much of the current literature that discusses how rural students have inadequate college support and less access to advanced courses, which may negatively affect college enrollment (Gagnon & Mattingly, 2016; Thomas et al., 2013).

For the final question that analyzed the relationship between individual, family, and school characteristics and students enrolling in college, if the counselor spent between 21 and 50 hours on college counseling, the students were 42% more likely to enroll in college. This is a significant finding as there is limited research on the connection between college counselors in high schools and their effect on college-going students. Our findings bolster the findings of Robinson and Roksa (2016) but contradict qualitative research on college counselors conducted by Morton et al. (2018) who reported that students felt counselors seemed unwilling to provide information about college. This specific aspect of college support in high schools significantly impacts students enrolling in college. Interestingly, 21–50% of counselors' time spent on college was much more likely to

influence students to enroll as compared to those counselors who spent over 50% of their time. Perhaps the other support, which is not related directly to college, could help students enroll. This is an exciting aspect of the findings that indicates a need for further study on the counselor's role in college-going, which is not explicitly related to college preparation.

Considering Perna's (2006) model of college choice, our analysis reveals a close relationship between habitus and rural students' college aspirations and enrollment. The influence of the school and community context is also well-illustrated in this study as our findings show that school counselors and income levels at a high school significantly influence students' likelihood of attending college. Other results demand that we confront the fuzziness of the boundaries between the layers of influence in Perna's model. Differences in how school support affects the college-going process for White, Asian, and Black students showcase how students' habitus shapes their engagements with the school and community. The disconnect between some student populations' desires to attend college and their actual attendance in college might be interpreted within Perna's model as a friction between students' habitus and the broader college-going context. Our analyses primarily focused on the two innermost layers of influence discussed in the model (habitus and school and community context). Therefore, further research is needed to investigate such interactions with the remaining model layers.

## Implications

The implications of this study highlight the importance of students receiving support from high school counselors and their parents or family members. Schools can ensure that their counselor has a significant amount of time to assist the students in planning and learning about college. However, the data indicate that counselor support for student success in high school might also assist students in enrolling in college. This means a combination of about half the time spent on college preparation and half the time spent on helping students succeed in high school made a difference. Additionally, parents should encourage and support their students through the process. Parental expectation and support of students attending college has a significant influence on students attending college. Therefore, high schools could assist with this by providing information sessions for families to share this information and give families guidance on how to support their high school students. This could include accurate information about how financial aid works, the benefits for their children of attending college, and information on basic college application practices, such as how to complete the FAFSA.

Another major factor in college-going is the highest math class taken in high school. This indicates that it matters when students take math classes. If school districts can offer Algebra I in eighth grade, students will be more likely to take higher-level math courses in high school. Again, ensuring that parents understand this will help parents encourage and enroll their students in higher-level math classes. Finally, further research

should be conducted looking more closely student experiences from grade nine through high school graduation so as to explore why student who plan to attend college do not end up attending college.

## Limitations

This study's limitations include the need for more recent research or broader studies to examine our findings further. In terms of the data analysis, we collapsed all the college support variables into one variable for the college preparation supports variable. Thus, there may be nuances to college support that we did not analyze (e.g., college visits may be significant while dual enrollment may not).

## Conclusion

Much of our analysis supports the extant literature that has found that personal and family characteristics strongly influence post-high school outcomes. Our findings suggest that high school characteristics have minimal effect, except for the percentage of students who receive free or reduced lunch. However, this is also reflective of individual and family characteristics. We also explored nuances in rural students' journey from ninth grade through three years post-high school. Namely, that desire to earn a bachelor's degree and apply to college did not mean students would attend college. Finally, we found that counselors spending 20–50% of their time on college support positively affected college enrollment. These findings support the influence parents and families have on college-going and the need for counselors to have time to work with students on college planning and successfully completing high school.

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*Theory & Practice in Rural Education (TPRE)*
2024, Vol. 14, No. 1, Pp. 127-155
Copyright 2024 ISSN:2641-7170
https://doi.org/10.3776/tpre.2024.v14n1p127-155

# A Mixed Methods Exploration of Students' Experiences of Taking Part in a Tuition Assistance Program in Rural Alberta, Canada

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This paper reports on the experiences of rural students taking part in the Zero Fee Tuition program—a postsecondary tuition assistance program providing up to $5,000 in tuition subsidies for students residing in Drayton Valley, Alberta, Canada. Zero Fee Tuition was introduced by the Town of Drayton Valley in 2019 as a rural development initiative focused on attracting and retaining postsecondary education students. Here, we present a qualitatively oriented mixed methods study of interview, focus group, and survey data collected with 24 Zero Fee Tuition students in 2021–2022 as part of a broader community-based participatory research project. This paper explores two overarching themes: (a) facing opportunities and challenges throughout zero-fee tuition education and (b) shifting the culture of education and training in Drayton Valley. Our results suggest that students' experiences were heavily shaped by the gendered care work they undertake in addition to, and as part of, their paid work and studies. Further, the Zero Fee Tuition program provided many students the first opportunity to attend a postsecondary education program. In this way, our findings suggest that Zero Fee Tuition is working toward its goal of expanding educational opportunities for residents of Drayton Valley. We discuss our findings within a rural oil-based town shaped by a boom-bust economy. Despite the positive contributions of the Zero Fee Tuition program, our analysis demonstrates the persistence of social structural conditions that impact the challenges faced by participants in this study.

***Keywords*: tuition assistance programs; rural postsecondary education; student experiences; mixed methods; community-based participatory research; Canada**

Rural towns in Canada are increasingly seeking to develop and implement innovative strategies to retain and attract residents. Such strategies include creating job opportunities (Halseth et al., 2016) and increasing access to postsecondary education and training opportunities, acknowledging that many people living in Canadian rural areas

have difficulty accessing these opportunities without moving to larger urban centres (Friesen & Purc-Stephenson, 2016). This paper focuses on the Town of Drayton Valley's (DV) actions to expand residents' access to postsecondary education as part of broader rural development efforts.

DV became a town in 1957 following the discovery of nearby oil reserves. The city is located in the western Canadian province of Alberta, about 130 km from the nearest major urban centre (Edmonton), with a population of 6,970 (Statistics Canada, 2021). The dominant industry in DV is oil and gas, which employs a large portion of the population. Resource-dependent towns like DV are often subject to boom-and-bust cycles, which create increased demand for workers offering lucrative employment, followed by high unemployment and out-migration (Emery & Kneebone, 2013; Höltge et al., 2021).

In response to the most recent bust period, DV Town Council sanctioned the Zero Fee Tuition (ZFT) program in December 2018 as a rural development initiative intended to diversify the local economy, retain and attract new residents, and improve residents' quality of life (Town of Drayton Valley, 2023). ZFT funding recipients can enroll in any credentialed program through the University of Alberta's Faculty of Extension, Northern Lakes College, Health Care Aide (HCA) Academy, and Delmar College. Except for the HCA program, program options are offered remotely. One goal of the ZFT program is to develop a more diverse workforce by reskilling residents looking to train for new higher-paying careers in alternative and emerging industries. The first cohort of ZFT students began their programs in January 2020, with each participant receiving tuition funding for the first year of their program. Per student funding was subsequently capped at $5,000 to enhance the sustainability of ZFT. The Town of DV provided most of the funding, with an initial investment of $250,000. Other funding came from local industry and community groups.

The qualitatively oriented mixed methods (QOMM) study (Poth & Shannon-Baker, 2022) described in this paper is part of a larger community-based participatory research (CBPR) project and examines the ZFT program in partnership with DV elected officials and administration (Ferdinands et al., 2024; Ormandy et al., 2023). For students taking part, DV partners wanted to understand better how the program worked or did not work. Thus, this paper aims to explore students' experiences in the ZFT program and analyze the initial impacts of ZFT on students.

In the following section of this paper, we connect two relevant bodies of research: literature on 1) rural development and 2) tuition assistance programs for postsecondary education programming. Next, we describe our research methods. We then present and situate the results of our analysis in relation to broader rural education and development literature.

## Literature Review

### Rural Development Initiatives

Provincial and federal governments have increasingly asked rural municipalities to implement economic development initiatives (Hallstrom, 2018; Halseth et al., 2017; Ryser et al., 2019). In this context, the actions of rural municipalities and small towns in Alberta have been shaped by political and economic austerity (Hallstrom, 2023). This has resulted in the "downloading of responsibilities" from higher levels of government onto rural municipalities, straining the limited resources of small, rural communities (Gibson & Dale, 2022, p. 177). In particular, towns with economies dominated by a single resource have undertaken development initiatives to diversify their economy to improve residents' job opportunities and quality of life. Some such initiatives include marketing towns as retirement locations (Sullivan et al., 2014), developing new infrastructure, including recreation facilities, green energy facilities, and rural connectivity infrastructure (Meredith et al., 2016), and population mobilization to preserve community history and identity (Moore et al., 2023). Additionally, Halseth et al. (2016) note that these development initiatives, education-focused or otherwise, are difficult to maintain in a boom-bust economy, where support for new and creative initiatives tends to wane in economic boom times.

Education initiatives are another promising, albeit underutilized, approach for rural municipalities to spur economic development and diversification (Beckley & Reimer, 1999; Liu et al., 2020). However, there often needs to be more connection between rural development and education policy in North America (Corbett, 2014; Schafft, 2016). Hillman's (2016) concept of education deserts, wherein marginalized populations have constrained access to postsecondary education, is relevant to this study. Hillman (2016) found that class and race were key factors limiting geographical access to postsecondary education in the United States. In a Canadian context, rural sociologists have found that residents in northern communities experience the greatest lack of access to postsecondary institutions (Zarifa et al., 2018). Moreover, in rural and remote communities, opportunities for skilled work are further constrained. This means many graduates leave their communities to move to larger cities or do not return to their communities after leaving to pursue education (Sano et al., 2020).

### Postsecondary Tuition Assistance Programs

Since the early 2000s, no-cost and low-cost tuition programs have been trialed to varying degrees in Canada, predominantly in relatively less wealthy maritime provinces, which typically have higher unemployment rates (Government of Canada, 2020). Such programs have primarily been provincially driven and funded. From 2016 to 2019, New Brunswick offered a free tuition program that provided bursaries for students studying in

a postsecondary program whose gross family income was less than $60,000 annually (Government of New Brunswick, 2016). Students could receive up to $10,000 annually if studying at a university or $5,000 annually if studying at a community college for up to four years. Approximately 6,000 students benefited from this program in the 2017–2018 school year (Trottier, 2019). New Brunswick's free tuition program was ultimately canceled following a change in provincial government. In Nova Scotia, tuition waiver programs were introduced in 2020 for former youth in care to attend postsecondary education (Chisholm, 2022). Waivers are available to eligible study recipients; however, limited spots are available. At Dalhousie University, the largest university in Nova Scotia, 10 waivers are available for eligible recipients (Dalhousie, n.d.). Finally, the Atlantic province of Newfoundland and Labrador claims to have Canada's most generous student financial support system. The province's current Debt Reduction Grant Program may convert up to the total amount of a student's provincial student loan into a non-repayable grant after graduation (Newfoundland and Labrador, n.d.-a). The province also offers a Tuition Relief Grant Program to low- and middle-income students attending the province's largest university, Memorial University, providing up to $3,450 per year in non-repayable grants (Newfoundland and Labrador, n.d.-b).

Similar programs exist in the United States (Custer & Akaeze, 2021; Davidson et al., 2018; Gahagan et al., 2023). Numerous researchers have examined Promise programs, which states or private philanthropists typically fund. The "promise" name comes from the Kalamazoo Promise program, founded in 2005, which promises that students who "meet the basic requirements will receive up to 100% of tuition and mandatory fees paid for at any in-state public community college or university" (Kalamazoo Promise, n.d.). Promise programs have various characteristics—some require students to continue working in the state where they attended school for some time post-graduation, other programs provide funding for a limited number of terms, and some provide a maximum dollar amount to students (Perna & Leigh, 2018). Some Promise programs have been shown to improve postsecondary student retention and graduation rates (Pluhta & Penny, 2013), improve high school graduation rates (Carruthers & Fox, 2016), and increase postsecondary education enrollment for students from low-income families (Andrews et al., 2010). These programs are typically state-driven or, occasionally, driven by a particular postsecondary institution. In this way, many Promise programs differ from the municipally driven ZFT program. Promise programs do, however, share a central characteristic of ZFT and rural development initiatives more broadly: they are place-based. This focus is designed to foster local economic development and increase economic diversification in towns that have dealt with issues related to youth out-migration, a decreasing tax base, and a perceived lack of opportunities for employment and education (Miller-Adams, 2015).

## Theoretical Framework

This paper draws on a systems change perspective, interpreting a social system as a "set of actors, activities, and settings that are directly or indirectly perceived to have an influence in or be affected by a given problem situation" (Foster-Fishman et al., 2007, p. 198). Here, we approach ZFT as a social systems strategy to address complex community-level problems in DV, such as out-migration (Mongeon et al., 2023). The paper is also informed by key CBPR principles, including valuing multiple kinds of knowledge, building local research capacity, establishing a sense of mutual reciprocity and trust, and inviting community stakeholders to participate in all aspects of the research process (Cargo & Mercer, 2008; Israel et al., 1998; Minkler, 2004; Wallerstein & Duran, 2006). In alignment with a CBPR approach, we view participants as experts in their experiences and appreciate their experiential knowledge as rural residents enrolled in a postsecondary education tuition assistance program. A constructivist epistemology and ontology underpin these theoretical perspectives, wherein findings are co-created with participants, and multiple perceptions of reality are specific, local, and co-constructed (Lincoln et al., 2011).

## Methodology

Informed by the above literature, we aimed to learn whether and how the ZFT program could impact students and, more widely, contribute to community development. We used a QOMM research design (Poth & Shannon-Baker, 2022). QOMM takes qualitative data at its core and supplements it with quantitative data to better understand the phenomenon under study (Johnson et al., 2007; Morse & Cheek, 2015). Tashakkori et al. (2020) recommend a constructivist paradigm when conducting QOMM research to ensure methodological coherence. Quantitative data enriched study participants' descriptions and added supporting details to our thematic analysis (Morse, 1991; Poth & Shannon Baker, 2022). Using purposive sampling, we invited, via email, all past and present ZFT students ($n$ = 42) to participate in 1) surveys and 2) individual interviews or focus groups. Of these 42 students, 24 participated in a survey and an individual interview or focus group. Participants received a $30 honorarium at each point of data collection. Recruitment was facilitated through our relationships with town councilors and administration and by hiring a local community engagement research assistant. Community partners were involved in the design of data collection tools but were not involved in data collection or analysis to preserve participant confidentiality. This study received ethics approval from the University of Alberta Research Ethics Board.

Between August 2021 and May 2022, we conducted one-on-one interviews with ten individuals who studied in ZFT programs. Due to the COVID-19 pandemic, while some interviews were conducted in person, others were conducted virtually. Interviews ranged from 8-45 minutes, with an average length of approximately half an hour. Some interview participants ($n$ = 6) had graduated from their programs within the last year, others ($n$ = 3)

were interviewed just before graduation, and one participant had a year left in her program when interviewed. Interview participants studied for business administration, HCA, and office administration certifications. Interview questions were designed to explore students' experiences—both positive and negative—of participating in the ZFT program and to uncover any impacts the program had on their personal and professional lives. Questions such as the following were asked: what were your plans and goals after high school? Have those changed since participating in the ZFT program? How has living in DV influenced your education and work opportunities? What influences your decision-making regarding whether you will stay in DV?

In March and April 2022, we conducted three in-person focus groups with 14 participants, all identified as women and studied in an HCA program through ZFT. In March, one focus group was conducted with all 14 participants. After a preliminary analysis of the participants' varying program experiences due to their age, participants took part in another focus group in April. This time, participants were divided into older participants (over 30) and younger participants (under 30), resulting in two smaller groups of seven. Focus groups were facilitated by a research team member, with at least one additional researcher present for notetaking. Focus group questions were designed to clarify preliminary interview findings and unpack the potentially gendered experiences of the ZFT program. For example, we asked participants how they balanced their roles and responsibilities at home, such as being their children's primary caregiver while simultaneously pursuing postsecondary studies.

Interviews and focus groups were audio-recorded and transcribed verbatim using transcription software, and transcripts were edited and checked for accuracy by a research team member. Qualitative data analysis followed a six-phase reflexive thematic analysis approach—familiarization, coding, theme development, refining, naming, and writing up (Braun et al., 2016; Braun & Clarke, 2019). Data analysis was organized using Dedoose software (Dedoose, n.d.). All textual data were coded for relevance to our research question, and themes were developed and refined through collaborative discussion with the research team. Pseudonyms identify all participants.

In addition to qualitative data collection, ZFT students were invited to participate in an online survey. This survey, developed in Alchemer (2023), captured demographic information and included questions about program participation, employment, stress, hope, and community belonging. Descriptive statistics were calculated from these survey data. We used multiple verification strategies throughout the research process to achieve rigor, such as collecting and analyzing data concurrently (Mayan, 2023). We regularly consulted with community partners through formal and informal communications (e.g., emails, texts, telephone check-ins, in-person conversations). As a means of member checking, we solicited and incorporated feedback from community partners and participants regarding preliminary findings (Mayan, 2023).

Data collection and analysis were shaped by researcher and participant positionalities. Five interviews were conducted by a team member who had lived in DV for more than 30 years, but the remaining interviews and focus groups were conducted by team members who had never lived in DV. As Banack (2021) notes, researchers associated with large urban institutions can be viewed with skepticism by some participants who deem the researchers as outsiders to the rural community. Our CBPR approach to the research design, data collection, and analysis considered these sentiments. Additionally, five research team members, all women, conducted interviews and focus groups, each with differing educational and professional backgrounds and training. Thus, our different approaches to interviewing and focus group facilitation shaped data collection (Braun & Clarke, 2023).

## Results

We developed two main themes: first, facing opportunities and challenges throughout a ZFT education, and second, shifting the culture of education and training in DV. Table 1 contains descriptive statistics from survey data about age, length of residence in DV, and income. Table 2 contains further details about participants, including gender, ethnicity, and program of study. Gender and ethnicity options included in the survey followed Datapedia, a document PolicyWise (n.d.) produced guiding the collection of ethnicity data in Canada. The number of responses (n) does not always amount to the total sample size (*n* = 24) because some participants skipped some survey questions.

**Table 1**

*Participants' Age, Length of Residence in DV, and Income (n = 24)*

| Indicator | n | Mean | SD |
|---|---|---|---|
| Age | 24 | 33.75 years | 11.2 |
| Years lived in DV | 22 | 21.1 years | 12.7 |
| Household income | 22 | $73,955 | $40,515 |
| Participant income | 23 | $20,039 | $10,338 |

| | | | |
|---|---|---|---|
| Hours of paid work/week | 24 | 29 hrs/wk | 17.9 |
| Hourly wage | 24 | $17.60/hr | $2.60/hr |

**Table 2**

*Participants' Gender, Ethnicity, and Program of Study (n = 24)*

| Parameter | Category | n |
|---|---|---|
| Gender | Woman | 23 |
| | Man | 1 |
| Ethnicity | Black | 1 |
| | Indigenous | 1 |
| | White | 18 |
| | South Asian | 1 |
| | Multiple ethnicities | 3 |
| Program of Study | Health Care Aide | 17 |
| | Business Administration | 4 |
| | Office Administration | 2 |
| | Occupational Health & Safety | 1 |

## **Theme 1**: **Facing Opportunities and Challenges Throughout a ZFT Education**

Throughout our one-on-one and focus group interviews, participants shared insights into the experiences that led to their enrolment in a ZFT program, the education itself, and—for those who had graduated—their experiences after their education. Here, we share these experiences, focusing on areas of opportunity and difficulties ZFT students face. Theme 1 is organized into four subthemes: (a) managing care work and schoolwork, (b) mitigating risk, (c) offering a stepping stone to an end goal, and (d) creating optimism for the future.

### ***Subtheme 1: Managing Care Work and School Work*.**

Most participants were young or middle-aged women engaged in various paid and unpaid activities under care work. Of 24 participants, 17 (70.8%) were enrolled in an HCA training program. The HCA training program has been the most popular and successful in attracting students to the ZFT program, partly due to the many job opportunities available in DV and elsewhere upon graduation. HCAs work in hospitals, assisted living facilities, and other healthcare facilities. In Canada, HCA roles include a range of care-oriented tasks such as "bathing, dressing, [and] meal preparation" and have expanded over time to "include delegated acts . . . such as catheterization and injection" (Berta et al., 2013, p. 2). In addition to paid roles, participants also cared for their children, adult children with disabilities, grandchildren, or elderly parents. Of 24 participants, 13 were the primary caregiver for a child 17 years of age or younger, and five were the primary caregiver for someone 18 or older.

Some participants, like Trudy, were returning to paid work after many years of being a stay-at-home parent: "Okay, so I got pregnant. And we got married. And we had a family. We had more children. I was home with the kids for many years." Although this was not the case for all participants, most agreed that this was a typical life course in DV, where women stayed home with their children, and their partners worked in well-paid but unstable jobs in the oil and gas industry.

Other participants worked in paid care work positions before starting their ZFT education. Tammy, for example,

> was a respite worker for kids with disabilities, and now I am a Disability Support Worker. However, the pay is crap. I could go flip burgers at McDonald's and make just as much as I'm making by looking after human beings.

Despite the low pay, Tammy explained how she stuck with this work because she found it enjoyable and rewarding.

Although the ZFT program covered a sizable portion of tuition costs—which was very helpful for participants, as discussed below—it did not provide funds to cover other

costs associated with the program (e.g., first aid training and books) or living expenses. As such, many participants had to continue working long hours at low-wage jobs while pursuing their education *and* doing the unpaid care work generally expected of them. When discussing this social context in a focus group, Anna stated, "We [women] do the grunt work all the time."

Survey results indicated a significant disparity between household income and participants' income. Average household income was more than triple the average participant income (Table 1). Most participants ($n$ = 16, 66.7%) were not the primary income earner in their family; the remainder of the participants either contributed equally to household income ($n$ = 2, 8.3%) or were the primary income earner ($n$ = 6, 25%). The average hourly wage for survey participants was $17.60/hour (Table 1), lower than the living wage marker of $19.55 for DV (Alberta Living Wage Network, 2023).

Participants, particularly those studying to be HCAs, identified strongly with the importance of their paid and unpaid care work. When asked about her life and career plans, Margaret answered, "I always pictured myself in the healthcare field." Marie and Diana had grown up visiting their mother and grandmother's workplaces, respectively, where they were nurses at nearby healthcare facilities. This influenced Marie and Diana to pursue healthcare-oriented careers. Overall, for many participants, the desire to care for others was meaningful in choosing a career path.

We asked focus group participants about the relationship between women, care work, and low pay in DV. Francine responded:

> I am one of those [where] at the end of the day I don't want to come home and say, "I made $200 today." I want to say, "I had a really good day at work today." Right? Like I want to get up in the morning and go to work and feel like you made a difference.

To Francine, doing meaningful work was just as, if not more, important than how much money she made.

While participants identified strongly with their care work, many also challenged the ways their time and labour were exploited and undervalued, explaining how this work was highly gendered. For instance, an HCA student, Joyce, stated:

> to be paid so little and treated so low, it's like you just feel unappreciated. I was working like 20 days with no day off, literally pulling overtime, but not getting paid overtime. Working every free available time that I could work, I was working for the last two and a half years and we still didn't make enough money. And that's when I got frustrated because I was like, I'm literally killing myself and we're not even close to making enough money.

Throughout the interviews and focus groups, many participants critiqued how they were exploited at work and overworked.

In the boom-and-bust context of the DV economy, many participants, like Joyce, had experienced extended spells as their family's primary income earner while their husbands were unemployed. Another woman, Stephanie, had similar frustrations working at a day home:

> During COVID I was the breadwinner of my family. And worked full time overtime, six, seven days a week, [for] a year and a half, right. And my husband went back to work in the oil field and in three months made more than I did in an entire year. And that was devastating because that whole year that I suffered during COVID, to pay bills and struggled and he just went back to work for three months and literally made more than I did in a year.

A significant reason for creating the ZFT program was to provide DV residents with the education and training required to secure steady, well-paid employment. Unfortunately, women like Stephanie, who accessed the HCA program, remain in a feminized industry where well-paying employment is difficult to attain.

***Subtheme 2: Mitigating Risk***

Participants consistently informed us that without the financial support from ZFT, they would not have been able to enroll in their program of study. For example, Allison, who had previously considered enrolling in a postsecondary education program, stated: "I wanted to go back to school regardless. Without zero tuition, I would not have been able to go back. I guess I was motivated to go back. The zero tuition program just allowed me to do it."

Another student, Jane, explained how she *could* afford a postsecondary education program but that ZFT funding still helped her and her family make the transition to full-time studies more manageable. Importantly, ZFT funding was not means-tested in any way. If a prospective student had a residential DV address, they were eligible for ZFT funding. For Jane, this funding, while not necessary for completing her postsecondary education, assisted her with her education regardless.

ZFT also helped reduce the risks of enrolling in a full-time, two-year postsecondary education program. One participant, Sylvia, had a previous postsecondary education that left her in debt but did not result in a job in her field. Following this negative experience, Sylvia would have "just taken [n] whatever job I [could] get. Because I'm $16,000 in debt for [an office administration] course that I'm not using working at [minimum wage job]." Receiving $5,000 in funding from ZFT drastically reduced Sylvia's risk of returning to postsecondary education. Overall, ZFT "opened some doors" (Jane) for participants to enroll in a postsecondary education or training program because of the reduced tuition

cost.

### *Subtheme 3: Offering A Steppingstone to an End Goal*

For many participants, pursuing and completing their ZFT education program was not only something they did to get a job but also an opportunity to pursue a personal goal. Almost three quarters (*n* = 17) of participants enrolled in a ZFT program to expand their employment opportunities and options (Fig. 1). Other reasons for enrolling in a ZFT program included a desire to secure a better-paying job (*n* = 16), a career transition (*n* = 11), and looking for more stable employment (*n* = 9). Before taking their ZFT program, participants worked primarily in service industry jobs, including health care (*n* = 8), food services and accommodation (*n* = 5), or other service industry roles (*n* = 7).

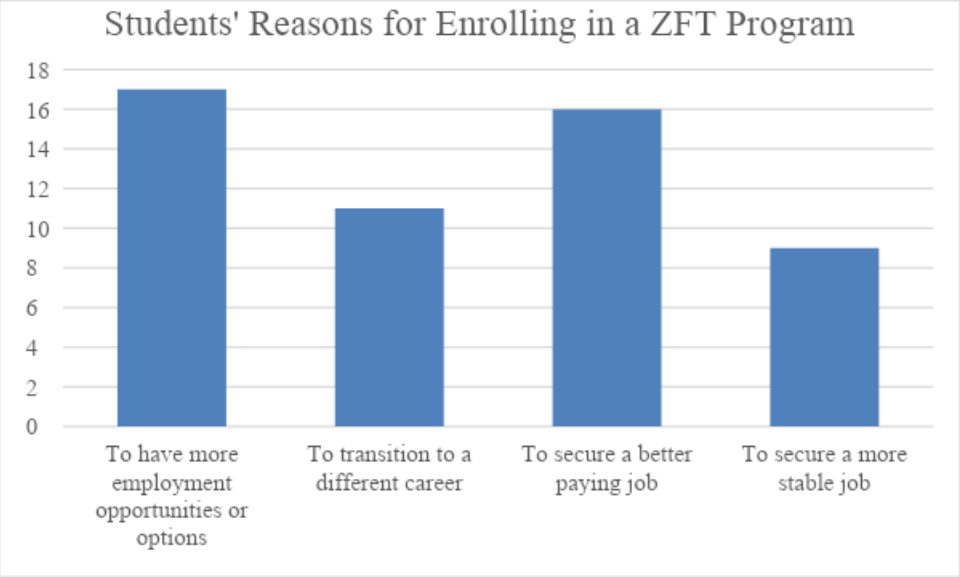


*Figure 1*. Participants' reasons for enrolling in a ZFT program (*n* = 24)

Most participants were taking their first postsecondary program through ZFT. One-third (*n* = 8) had completed some previous postsecondary education or training. Many participants had plans to pursue further credentials immediately after their ZFT program or viewed their ZFT program as a first step in their long-term educational and career goals. For example, Joan, who completed a business administration program, developed her skills to start her own business. Receiving the ZFT funding meant Joan could "work a little bit and then go to school. If it wouldn't have been for that, [she] would have had to take the two years [instead of one year to finish the program.]" Joan's education helped her to achieve her personal goal of starting her own business.

Additionally, her long-term plan aligned with the Town's goals for ZFT. Specifically, these include promoting economic diversification and creating new business and employment opportunities for residents. Other participants reported enjoying courses and learning new skills so much that they planned to do subsequent courses and

certifications. For example, Allison hoped to transition from a labourer to an administrative role. When we interviewed her, she was studying in an office administration program through ZFT and had plans to "transition into business admin. And then from there, I'm hoping to transition into HR . . . I have a plan, hoping it will come to fruition." The ZFT program helped her plan and achieve her future career goals.

Dawn, who was studying to be an HCA, wanted to pursue further education in the same field, partly to get a higher-paying job and partly because she was enjoying her education:

> This is a steppingstone for me to get there . . . Get a feel of it and know if I still want to finish it, which I really do . . . I'm enjoying it. And I may not end right here but I already think I will take the LPN [licensed practical nursing] program.

HCA students like Dawn viewed future career laddering into licensed practical nursing or registered nursing programs as promising pathways. In this way, the ZFT program was an important steppingstone for continuing to advance their careers.

However, ZFT is a relatively new initiative (established in 2019) that entailed forming new partnerships between the Town of DV and various postsecondary institutions. As such, there were some initial logistical barriers to helping students achieve their goals. For instance, Helen could not complete her education and pursue her goal of working in healthcare. She completed all her coursework and training to become an HCA, except a required practicum. She was not able to complete her practicum and was unable to graduate:

> They moved the practicum date, the practicum location to not DV. So that kind of ruined the point of being able to do schooling in DV. I don't drive and they moved the practicum to somewhere . . . And when I brought up, I can't go there. Everyone involved was like, well, you can get an Airbnb, or you can do this. And they didn't really understand that I took the program because I didn't have much money. . . . So I think if they keep doing it, they should make the practicums, if possible, in DV.

Helen expanded on her frustrations: "The education would have been beneficial because there are so many job opportunities and room for advancement in my field. And I think I would have had a lot of really cool job opportunities."

In other instances, some students were confused about the financial support they would receive. These students understood the "Zero Fee" name to mean they would not have to pay tuition. However, the $5,000 provided by ZFT is sometimes insufficient to cover the total cost of tuition. One such student explained, "It's been very stressful to apply for funding, not knowing whether or not the outcome will be positive. I didn't expect

to pay all the money we've paid or be stressed about whether or not bursary applications will be accepted." While most participants' goals were facilitated, this was not the case for every participant. Some of these issues can be resolved through program administration, while others, such as limited employment opportunities in rural towns, are more difficult to overcome.

***Subtheme 4: Creating Optimism for the Future***

Participants told us that participating in the ZFT program significantly improved their lives. Some participants' income levels rose substantially due to their education and training. Rachel was comfortably able to support herself with her new job. After asking her how her life is different since having completed the ZFT program, she responded:

> *Rachel*: Mostly, it's just that I have a real job. I was nannying, but I don't think I made minimum wage. I have enough money to support myself now. I don't have to live with roommates. I am married, but before I got married, I was living by myself.
>
> *Interviewer*: When you say a "real job," what do you think constitutes a real job?
>
> *Rachel*: I don't really know. I guess it's more stable. It was kind of back and forth. I could nanny for a few years, but then the kids are gonna grow up. This way, I can, you know, stay at this job for 40 years.

Rachel was earning more money and feeling more confident and secure about her long-term employment prospects because of her education. Survey results similarly suggest that participants found their ZFT education relevant to their career goals and would help them advance their careers. For example, 20 of 24 participants (83.3%) agreed or strongly agreed that they had better employment prospects because of their ZFT education (Fig. 2).

Other participants nearing the end of their education or had recently graduated but not yet found a job still experienced a confidence boost. Roger was "incentivized to go out and start applying for those… jobs [he] had always been thinking about."

Likewise, Allison explained that she enjoyed her work more since completing her education. Although she was working at the same job, she had a raise and:

> a lot more responsibilities at work, which is a good thing. Because that's what I was looking for. I actually learned quite a bit in it [office administration certificate]. So it has affected my life a lot. It's made me more efficient at work.

Many participants told us that they were planning to stay in DV long-term because of familial connections to the area. Anna was optimistic that upon completing her education and attaining a higher paying job, her husband could have a job that enabled

him to stay in DV, and their family could spend more time together: "I believe my situation will change because at least then I'll be providing a decent income. So then, hopefully, my husband wouldn't necessarily have to take a job where he's out of town." Having the opportunity to live close to extended family was extremely important to participants who wanted to stay in DV. Anna identified one way that, individually, this problem could be solved for her family due to her ZFT education.

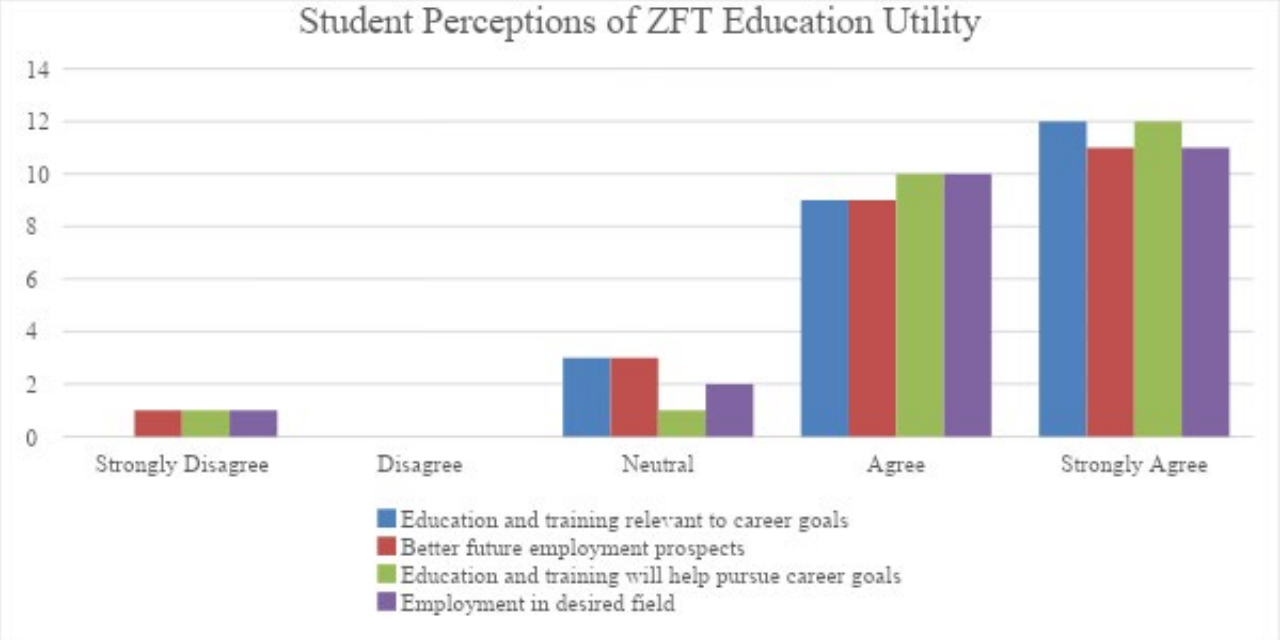


*Figure 2*. Agreement with the utility of education in the ZFT program (n = 24)

**Theme 2: Shifting the Culture of Education and Training in DV**

The ZFT program is part of the town's broader efforts to change DV's education landscape. Participants consistently identified the lack of local education opportunities as a longstanding issue for them and their families. In this theme, we discuss how participants explained the context of education in the town, from their youth to the present, and how they understand some of the changes in their lives and educational experiences resulting from their participation in ZFT.

***Subtheme 1: Taking Diverse Educational Routes to ZFT***

Participants indicated three main educational routes that brought them to their ZFT program of choice. First, some participants had previously started a postsecondary education program but had not completed it. For example, Jane did not finish her previous program due to difficulties with scheduling other aspects of her life:

> Right out of high school, I was in the [postsecondary program] at [college]. And then I did not finish that. . . . And then we ended up having our daughter, so I'm kind of just picking up where I left off, just eight years later.

Cost was also a factor. Another participant, Rachel, had previously been accepted to programs at multiple postsecondary institutions but "just didn't want to spend the money."

Second, eight participants had previous training or education but either did not find full-time work in the field they had trained in or no longer wanted to continue working in that field. For example, one focus group participant, Caroline, held a four-year degree but no longer wished to work in that field because it was "the shits right now. So this [ZFT] is another opportunity to help people still." Her ZFT program allowed her to pursue a new career while remaining in a "helping" field.

Third, most participants previously had no concrete plans to attend a postsecondary program before hearing about ZFT. The most common reason was cost: "I wanted to go to school out of high school, I wanted to go in for [postsecondary program] anyways. But it wasn't affordable at that moment in my life" (Faye). Other participants identified DV's lack of postsecondary options: "There's not really much for college options in Drayton. I think that's a barrier" (Jennifer). Many participants identified a lack of encouragement to pursue education, especially for girls and young women attending high school. Anna discussed how she and her peers were often typecast as those who would or would not participate in university from an early age:

> It was very divided when I was in high school. You had the people who already knew that they are going to be in trades. They didn't work well in school. So like even guidance counsellors would kind of put them in [an apprenticeship] program already. "Take this, take this," but anyone who they already knew was smart enough, or determined enough to go to university, they're like, you're kind of on this side of the school. You're going to take these courses.

Similarly, some participants felt they lacked guidance on education and career paths both at home and school:

> *Interviewer*: Did you have a vision of when you were in grade, say like, 10, 11, 12? What you wanted to do afterward?
>
> *Betty:* No, no, I had no guidance.
>
> *Interviewer*: So within the school context, there wasn't anyone to really—
>
> *Betty:* There was, but I didn't have a lot of guidance at home. So I was skipping. And like, I literally had no idea.

Although most participants voiced similar experiences around a lack of guidance, one participant, Joan, who returned to complete her high school education as an adult, was strongly encouraged by a well-known and liked teacher to pursue further education specifically through ZFT.

> *Joan*: I was taking my high school. I was like, okay what can I take to get into this accounting program? [Teacher] was like, well we can do this and this.
>
> *Interviewer*: Was it [teacher's name]?
>
> *Joan*: He's amazing.

Participants then had varied prior experiences with education from the lead-up to beginning their ZFT-funded programs. In many cases, participants directly linked their experiences to the context of growing up in a small town with relatively limited postsecondary education opportunities.

### *Subtheme 2: Encouraging and Inspiring Others to Pursue Education*

Many participants indicated either a longstanding or a newly developed passion for education. As a result, these participants hoped to inspire or had already inspired others in their lives to pursue educational opportunities. Stephanie hoped to be a role model for her children:

> Me continuing with my education, I'm hoping that setting an example for my children that no matter at what age, you can still carry on and pursue something. Because right now they're at the stage where it's like, school is boring.

Some participants, like Stephanie, were concerned that their children might become apathetic about education as they grew up. These participants viewed their ZFT education as not just their educational attainment but possibly increasing the chances that their children would also pursue postsecondary education. Tammy also inspired her daughter: "My 13-year-old knows she wants to be a nurse. She knows, and then, you know, she sees my textbook. And she's like, this is so cool." In discussing the interpersonal impact of taking the ZFT program, Francine said:

> [I and my cohort of HCA students] have inspired my husband to go back to school, who did not finish high school. He started an apprenticeship 10 years ago and never went through with it. He is now restarting his apprenticeship. Because he's like, okay, if you can do this, if all you ladies can do this, I can do this too. So we've inspired him to go back to school.

Participants who inspired others to complete education and training viewed these opportunities as a chance for their loved ones to pursue more stable and better-paying work. Most (83.3%) participants indicated they would recommend ZFT to someone else or had already done so based on their experience in the program (Figure 3). Sherry explained that she "would rather my boys go into trades than oilfield. And even my husband says to them all the time. 'You do not want to be on a rig like dad.'" For her,

encouraging her children to attain an education created an option to work outside of the oil field and possibly escape the boom-and-bust cycle commonly associated with DV's economy.

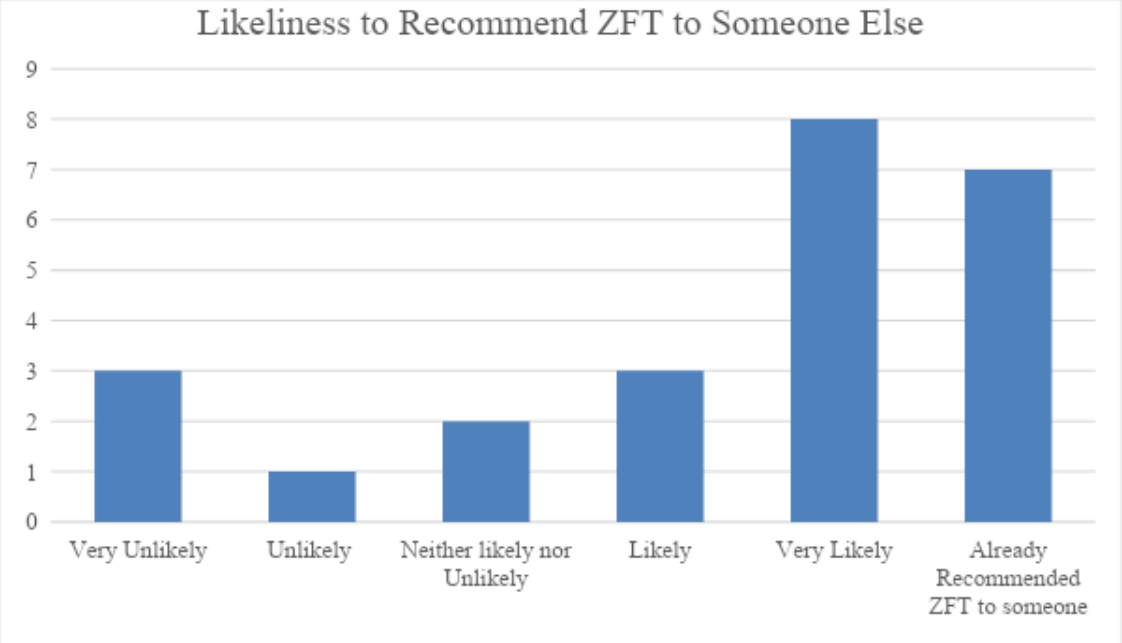


*Figure 3*. Likeliness to recommend ZFT (n = 24)

## Discussion

### Realizing "Good Jobs"

There are many challenges to accessing higher education in rural communities. These include limitations on program offerings (as smaller institutions and satellite campuses offer fewer programs), transportation to and from classes, and, most importantly, as seen in this study, cost. Recognizing these barriers, the ZFT program sought to eliminate or at least lighten the financial barrier to postsecondary education. Our results suggest that this has been a program success, at least at this early stage in ZFT implementation.

The stories participants shared with us, and the boom-and-bust character of the DV economy, significantly shaped the themes generated from these stories. For example, bust periods meant that participants often had difficulty finding work as had their partners. For many, this meant saving money for education was not an option. Multiple participants discussed the notion of a "good job" or a "real job," which, in their view, they had been unable to acquire without an education. Participants implied that the jobs they were training for, such as HCA, business, or office administrative, were "real jobs."

In contrast, the jobs they had previously worked, including food servers, nannies, and daycare workers, were not "good jobs." This was due to low wages, unstable or

insufficient hours, and a lack of respect for those professions. Even in boom periods, many participants had difficulty finding employment that paid well and would allow them to save money as few participants had directly worked in the oil and gas industry. These findings build on literature demonstrating the challenges that populations face in boom-and-bust economies even during times of prosperity (Twum-Antwi et al., 2020; Van Assche et al., 2017).

**Reducing Financial Barriers and Risks**

For some participants, ZFT provided the necessary encouragement to pursue postsecondary education. Previous research has suggested that "willingness to pay" influences whether a student will enroll in postsecondary education, partly due to the increased individual-level financial risk of enrolling in but not completing a credential (Palameta & Voyer, 2010; Queenan & Street, 2020). ZFT eliminated or lessened risks for students "who might have otherwise not enrolled, [and] may realize substantial gains by learning they can attain a degree" (Blagg & Blom, 2018). Additionally, ZFT gave some students the confidence to expand their career goals. For instance, many HCA students intended to enroll in a licensed practical nursing program, a higher certification that would enhance their employment opportunities.

Qualitative data from this study overlap with previous research on tuition assistance programs (Ford et al., 2019; Miller-Adams, 2021), suggesting students who complete their program are optimistic about the future. Most participants, who would not be considered "traditional students" beginning postsecondary studies soon after high school completion, took diverse routes to enroll in their ZFT program. Many participants were first-generation students, middle-aged parents, and/or were from low-income households. Qualitative evidence from this study supports quantitative evidence that tuition assistance programs in Canada (Ford et al., 2019) and the United States (Pluhta & Penny, 2013) can increase enrollment, retention, and graduation from college programs for these groups.

Participants suggested that the lack of education opportunities was tied to the dominance of DV's oil and gas industry. Community leaders have sought to change this aspect of living in DV by implementing ZFT. Rural development literature has grappled with the challenges of sustaining development initiatives during boom times when attention is often directed toward the most profitable economic activities (Halseth et al., 2017). ZFT was conceptualized as a rural development initiative that could revitalize DV and retrain existing residents while attracting more people to the town. The Town of DV hopes to continue ZFT and pursue ongoing support through various funders.

**Reframing Resilience**

One goal of the ZFT policy is to create an optimistic future for DV residents in part by "reducing financial barriers for community members to [access] postsecondary

education and training" (Zero Fee Tuition Assistance Policy, 2021, purpose section, para 1). This framing of optimism draws on a discourse of resilience. That is an “individual's ability to ‘maintain relatively stable, healthy levels of psychological functioning’ when facing ‘disruptive event’” (Bonanno, 2004, as cited in Mahdiani et al., 2020, p. 149). Resilience is a common frame for rural development initiatives and research examining rural communities (Mahdiani et al., 2020; Ryser & Halseth, 2010; Steiner & Atterton, 2014). While, in many cases, participants described how they overcame challenges during and partly because of their ZFT education, we also wish to draw attention to how this framing of resilience legitimizes social structures that produce such challenges. People who display resilience are required and expected to do so to survive and, to the extent that it is possible, thrive in systems that have let them down. Rather than this framing of resilience, we suggest programs like ZFT can and should be conceptualized as seeking to break down unjust social systems that create and perpetuate inequities.

**Gendering ZFT in DV**

One of the structural issues that repeatedly arose in conversations with participants was the way that gendered norms in DV had constrained them. The context of DV's resource-dominated economy is essential in care work. In many cases, without postsecondary education, the employment options in DV are limited to low-wage service work or well-paid but unstable, unsecure, and highly gendered work in the oil and gas industry (Murphy et al., 2021). Many participants we spoke to had worked primarily in low-paid positions where they felt undervalued. Throughout our data, HCA students, in particular, expressed concern that the vital care work they would be performing after their education would continue to be low-paid, undervalued, and subject to exploitative conditions such as missed overtime pay and lack of regular hours. This gendering of care work (Chatzidakis et al., 2020; DeVault, 1991) was consistently identified as a significant challenge for our participants, who also passionately identified with the importance of their care work.

ZFT was initially introduced as a skills training program targeting men working in the oil and gas industry to diversify DV's economy. However, almost all students thus far have identified as women. The close links between this kind of vocational skills training, gendered work in DV, and education and training have resulted in a tuition assistance program that is highly gendered in terms of enrollment. This phenomenon is also shaped by the programs (e.g., HCA certificates, office administration) that track graduates into lower-paying careers. That is not to say that only women have or will access ZFT funding, but the gendered structures of family life, work, and education and training in DV shape the pathways residents take to enroll in ZFT. Future research could explore the gendered implications of tuition assistance programs in such social contexts.

### Influencing Policy

Golden et al. (2015) have mapped an "inside out" social ecological model to explain policy and environmental change at a community level in assessing the complexity of influencing policy, social structural, and environmental change. While traditional social-ecological models focus on individual development within social conditions, the model developed by Golden et al. (2015) upends this to center the development of policies and environments. We understand ZFT as a policy and program that can contribute to developing a healthy community context. Ultimately, drawing on such a model, it is possible that through ZFT, participants in this study and other community members can and are influencing social policy and educational change in DV. "Interpersonal connections that foster collective action" and "distribution of resources and power across individuals" are two critical ways that individuals can affect and benefit from community and policy change (Golden et al., 2015, p. 10S). As Pluhta and Penny (2013) found, students in tuition assistance programs can impact others in the community, inspiring peers to pursue postsecondary education and training. The outcomes participants discussed with us contributed to initial community change through ZFT as participants created connections with others in the community through their work experiences and inspired others to pursue and champion education in DV. Additionally, the context of DV as a small rural community, where everybody knows everybody, meant that participants frequently shared info about ZFT with others in the community.

## Strengths and Limitations

A strength of this study is the CBPR approach. This study was co-designed with elected officials and town staff who partnered with the research team to organize and structure data collection. For example, the town's education coordinator gave substantial input into indicators of importance for data collection. Prolonged engagement and regular communication with community partners helped to ensure research relevance to municipal interests and needs. As part of our CBPR approach, our research team included two research assistants who currently or previously lived in DV. These research assistants were vital in helping us to establish and sustain these research relationships. Additionally, the research team included individuals with diverse skill sets, including expertise in community economic development, business development, qualitative methodology, critical social theory, poverty, and policy. Our different approaches to understanding how ZFT works enrich this CBPR project.

A limitation of this study is that data collection occurred at various points throughout participants' ZFT education programs. Results may have differed had each student been interviewed and surveyed after precisely the same period of starting and completing their programs. Another limitation was the small sample size of participants, which limited analytic possibilities for the survey data.

## Conclusions

Postsecondary tuition assistance programs are relatively rare in Canada. Municipally driven and funded programs like DV's ZFT program are even rarer. In this paper, we have shown how this program has been a unique and innovative way for one rural town to spur development and economic activity in the community while directly trying to improve the lives of and opportunities for residents in the community. Additionally, this study contributes to the literature on rural postsecondary students by exploring their challenges while obtaining an education in a rural area. Future research should continue to explore the social, economic, and health impacts of tuition subsidy programs on students. As tuition costs continue to rise in Canada, and if provincial governments continue to reduce their funding commitments to public higher education institutions, programs like ZFT may increasingly be required to support students' postsecondary education goals.

## Acknowledgments

We want to thank the participants in this study for sharing their time and knowledge with us. We are grateful to the Town of DV for inviting us into their community and admire their commitment to enhancing local access to postsecondary education. In particular, we would like to thank our primary community partners, Tanya Harding and Nancy Dodds, and our community engagement research assistant, Dana Wagner.

## Funding

The Social Sciences and Humanities Research Council (SSHRC) and the Future Skills Centre (FSC) provided funding for this research.

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*Theory & Practice in Rural Education (TPRE)*
2024, Vol. 14, No. 1, Pp. 156-182
Copyright 2024 ISSN:2641-7170
https://doi.org/10.3776/tpre.2024.v14n1p156-182

# Forming networks between rural schools and their local areas: Shared projects and their impact in the Asturian context

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Rural schools play an essential role in their local areas, helping stimulate the community and promoting activities with economic, social, and cultural impact on the area. This study aimed to identify the projects undertaken by 44 rural schools in Asturias (Spain) in collaboration with local agents and organizations by consulting the school management teams. It also sought their opinions about the impact of these projects. The study used a mixed methodology: quantitative, analyzing the data collected from a semi-open questionnaire, qualitative, and listing and describing the projects. The questionnaire included questions about the organizations the schools collaborated with, the goals and subjects of the shared projects, and funding sources, and asked for opinions about their impact. The results indicate that rural schools in Asturias have undertaken projects covering various subjects in collaboration with local authorities, cultural centers, libraries, public health centers, small businesses, and non-governmental organizations (NGOs). The respondents were very satisfied with the activities. They viewed their schools as a stimulus for their areas, stating that the projects encouraged a sense of belonging to the area and helped construct a collective identity. They also felt that they responded to shared needs, offered services to the community, allowed people to settle or remain in the area, and, to a lesser extent, helped local businesses and the local economy. Finally, the study concludes that these schools play an active role in their local areas and highlight the importance of external support in implementing initiatives that benefit the rural population.

***Keywords*: rural school, collaborative project, local development, leadership**

In recent years, there has been a variety of research about rural schools, as evidenced by various bibliographic reviews. Fargas-Malet and Bagley (2022) identified five main lines of research about rural schools in the European setting: the study of

context, analyzing the concept "rural" and educational policies; the relationship between school and community, including school closures, the role of the school in the community, and the degree of family involvement; the learning environment, assessing educational practices, the impact of Information and Communication Technologies (ICT) on rural schools, and multi-grade classrooms; leadership, looking at school management teams, inter-school collaboration, and teacher training, among other topics; and finally, aspects related to equity in education and academic achievement.

Some studies have examined rural schools' limitations, problems, challenges, and advantages based on their characteristics (Santamaría & Sampedro, 2020). It is worth highlighting that some geographically isolated schools find it difficult to access certain services and report being ignored by the authorities, a lack of human and material resources, a digital divide, and a lack of stable teaching teams (Álvarez-Álvarez et al., 2020; Azano et al., 2020; Echazarra & Radinger, 2019; Kormos & Wisdom, 2021; Santamaría & Sampedro, 2020). In addition, rural schools' organization as classes with students from multiple grades (e.g., multi-grade classrooms) means that teachers need specific training to apply the most suitable teaching methodologies (Naparan & Alinsug, 2021), training that is often not provided when earning teaching degrees (Villa & Knutas, 2020). Rural schools are also affected by the increasing rural depopulation (Moreno-Pinillos, 2022).

Despite the difficulties these schools face, some of their characteristics, such as small class sizes and multi-grade classrooms, do offer learning opportunities as they allow tailored attention (Santamaría & Sampedro, 2020), encourage responsibility, cooperation, and support between peers (Villa & Knutas, 2020), and promote the development of innovative projects that stimulate creativity and critical thinking (Echazarra, & Radinger, 2019). Other strengths of rural schools include closer relationships between teachers, students, and their families, lower levels of conflict, and families' engagement with school (activitiesÁlvarez-Álvarez et al., 2020; Azano et al., 2020; Echazarra & Radinger, 2019). These make the school an ideal setting for implementing innovative methodologies, such as service-learning, where educational practice is linked to community needs and problems (Ingman et al., 2022).

The role of rural schools goes beyond just their teaching work; they are, in addition to educational institutions, agents of local development. Various studies have highlighted the impact of rural schools in maintaining population levels (Cedering & Wihlborg, 2020; Moreno-Pinillos, 2022; Santamaría & Sampedro, 2020). In contrast, school closures have negative repercussions on the area, accelerating the rate at which people leave, impairing community development and vitality, as well as weakening the area's economic and social growth (Haynes, 2022; Lehtonen, 2022; Sørensen et al., 2021).

Rural schools certainly play an active role in their local areas, participating in or leading projects that positively impact them (Zuckerman, 2020). They contribute to local

development through the various projects they drive and the initiatives they participate in alongside different agents and organizations. Many of these projects are planned to offer services that provide meeting points for the population, reinforce links to the area, share information about local heritage, or stimulate local life (Villa & Knutas, 2020). Doubtlessly, these schools have an essential function in their rural context: to promote the population's sense of belonging to the area (Villa & Knutas, 2020). It is crucial to analyze their projects with various local agents and organizations so as to determine their role in stimulating the area.

The present study examined the relationships between rural schools and their local areas. This field has recently attracted research interest in the European setting (Fargas-Malet & Bagley, 2022). The Spanish context frames the analysis, precisely that of Asturias, one of the Spanish regions with the most significant proportion of schoolchildren at rural schools (Ministerio de Educación y Formación Profesional, 2019), making it particularly interesting to study the impact of rural schools on their local areas.

## Theoretical Framework

### Recipes for Cohesion between the School and the Region: Collaborative Projects

Some studies have focused on analyzing rural schools' role in their local areas, looking at the relationships with families and other agents in the local community (Santamaría & Sampedro, 2020). The close bonds between rural schools and their local areas are one of their strengths (Fargas-Malet & Bagley, 2022) as it helps to ensure that their work stimulates the region, acting as educational, social, and cultural focal points for the community. Undoubtedly, rural schools contribute to social cohesion and benefit the community in many ways (Sørensen et al., 2021), positively impacting the area economically and socially (Haynes, 2022).

In this regard, some authors use the terms "community school" or "extended school" to label schools that offer services and activities to the community beyond the work of their teaching (Supule, 2019). The phrase "community active schools" has also been used for schools that play an active role in their community. It often happens in rural schools in various European countries, including Finland, Sweden, and Austria (Fargas-Malet & Bagley, 2022). Schools' active role is recognized and appreciated by members of the educational community (i.e., teachers, students, families), the local population, and local authorities, meaning they have particular importance within the community (Moreno-Pinillos, 2022). In addition, rural schools help glue communities together, stimulate social life, and perform other functions.

The links between schools and their regions can be established in various ways. Miller (1995, cited in Supule, 2019) indicated that rural schools can get involved in the community in three ways. On the one hand, rural schools can be thought of as serving the local population by offering cultural, training, and social resources. Many schools

become intergenerational meeting points that provide essential services for the local people, such as summer learning activities, courses and workshops for families and adults in general, and spaces for outside activities (Álvarez-Álvarez & Vejo-Sainz, 2017; Supule, 2019; Villa & Knutas, 2020). There are also examples of activities designed to reinforce school–community relations by promoting joint discussion and reflection that initiatives align with the interests shared by the school and its local area (Moliner et al., 2017).

On the other hand, a connection with the area can be established through teaching practices involving the students in activities and projects related to their surroundings and by linking those activities to elements of their own culture, the natural environment, traditional crafts, or local business activities. These teaching practices motivate students and their families (Moreno-Pinillos, 2022); they give a practical element to curricular learning and encourage knowledge and appreciation of local heritage (Villa & Knutas, 2020). In addition, some schools invite their students to participate in service-learning projects, resulting in reported improvements to the schools and their regions; they encourage intergenerational cooperation, develop professional skills, and enable collaborative working (Ingman et al., 2022).

Finally, an additional possibility is involving students in rural enterprise projects. Although these types of experience are less widespread (Supule, 2019), they greatly interest students' professional training. Business-based projects, combined with Science, Technology, Engineering, Arts, and Mathematics (STEAM) methodology, encourage the development of creativity, science and technology competencies and student motivation, and they help cultivate enterprising attitudes in rural students, as indicated in some experiences (Amri et al., 2021). These projects may be planned in cooperation with families and function as initiatives that provide occupational and economic benefits to the rural population. The project "Hilvanando culturas" [Binding cultures together] run in schools in Aragón (Spain) is based on creating a dressmaking workshop that promotes businesses and women's employment in the rural environment (Neila & Llorente, 2019).

External support and collaboration are essential for projects that consolidate the ties between schools and the community. Many schools maintain cooperative relationships with various agents or organizations and count on the unconditional support of the population or collaboration with NGOs, associations, or local institutions for multiple projects that ultimately benefit the community, for example, in rural Norwegian schools (Villa & Knutas, 2020). In Spain, rural schools often undertake collaborative projects with various entities, such as local authorities, cultural centers (e.g., museums, libraries, and foundations), associations, public health centers, NGOs, or other schools, which promotes community connectedness (Álvarez-Álvarez & Vejo-Sainz, 2017). Consequently, it is essential for the participants to start with everyday needs and interests

and to plan and consider them together (Moliner et al., 2017). In this way, rural schools become essential drivers for the community and vice versa (Villa & Knutas, 2020).

This means there is a need to look more thoroughly at the projects these schools undertake and understand the topics they prioritize, the organizations they bring together, and their impact on their area. In addition, because external support is fundamental, it is also essential to look at funding sources and the collaboration of external agents and organizations, their functions, and the support they provide. The present study analyzes the role rural schools play in their local areas. Consequently, it helps to raise their profile and acknowledge their contribution as components of social cohesion and stimulus to both rural life and the rural economy. In this context, the role of school management teams is critical for establishing and maintaining contact with the various local agents (Nordholm et al., 2022) to undertake joint projects. They know their schools' projects and are a privileged source of information for identifying and highlighting their involvement in the community. For this reason, the present study sought their perspectives as have other similar studies about rural schools (Álvarez-Álvarez et al., 2020; Nordholm et al., 2022).

## Objectives

This study aims to: 1) identify the projects undertaken by rural schools in Asturias in collaboration with local organizations or social agents and to determine the roles they played; 2) describe the defining characteristics of the projects (i. e., objectives, subjects, priorities, etc.); and 3) determine their impact on the local area. This was achieved by consulting the schools' management teams responsible for the projects and their management.

## Method

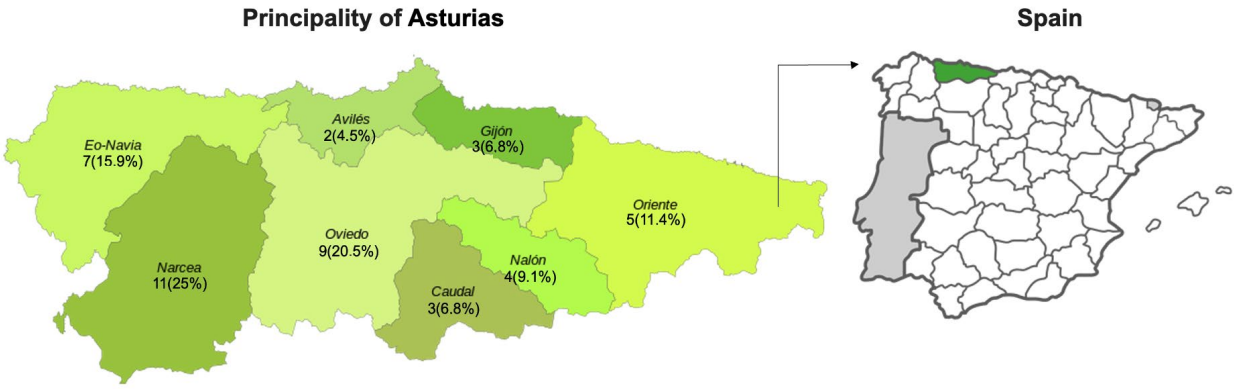
This study resulted from a research project funded by the Spanish Ministry of Education (PID2020-115880RB-100). It is a descriptive, exploratory, and analytical study, according to Cohen et al. (2011). The study used a mixed methodology: a) *quantitative*, based on the analysis of data collected via a questionnaire surveying the opinions of Asturian rural school management teams to identify the projects they have undertaken with various agents in their local areas; and b) *qualitative*, in that the projects are described and analyzed, along with their impact on the local area.

### Sampling context

The Principality of Asturias (Spain) has 57 rural schools. Over three-quarters (44) of the schools participated— by reporting their management teams' opinions—a sample representing 77.19% of the population. The distribution of the schools by region is shown in Figure 1.

**Figure 1**

*Geographical distribution of rural schools of Principality of Asturias (Spain) in the study*




The survey reflected the opinions of the management teams in the various rural schools; 25 (56.8%) were men, and 19 (43.2%) were women. Two (4.5%) were between 25 and 29 years old; 3 (6.8%) were aged 35–39; 8 (18.2%) were aged 40–44; 14 (31.8%) were aged 45–49; 7 (15.9%) were aged 50–54; 6 (13.6%) were aged 55–59; and 4 (9.1%) were aged 60–64. Almost half of the respondents, 21 (47.7%), worked in *Colegios Rurales Agrupados* (CRA) [Grouped Rural Schools]; 10 (22.7%) worked in *Colegios Públicos de Educación Infantil y Primaria* (CEIP) [Public Infant and Primary Schools]; 9 (20.5%) worked in *Colegios Públicos de Educación Básica* (CPEB) [Public Basic Education Schools]; 3 (6.8%) worked in *Escuelas Unitarias* [Unitary Schools]; and 1 (2.3%) worked in an *Escuela Hogar* [Home School]. Most of these schools (36; 81.1%) had multi-grade classes whereas 8 (18.2%) had full ordinary classes.

Based on the data, the respondents who began their teaching careers in rural schools have decided to continue teaching in them (Table 1).

**Table 1**

*Percentage distribution of the respondents based on their teaching experience*

| | | Total amount of years of teaching | | | | |
|---|---|---|---|---|---|---|
| | | < 5 | 6-10 | 11-15 | 16-20 | > 20 |
| Years of teaching only in rural school | < 5 | 100.0 | 0.0 | 42.9 | 7.1 | 4.8 |
| | 6-10 | 0.0 | 100.0 | 14.3 | 7.1 | 9.5 |
| | 11-15 | 0.0 | 0.0 | 42.9 | 71.4 | 23.8 |
| | 16-20 | 0.0 | 0.0 | 0.0 | 14.3 | 28.6 |
| | > 20 | 0.0 | 0.0 | 0.0 | 0.0 | 33.3 |

The respondents indicated that, in addition to their managerial functions, 14 (11.8%) were homeroom tutors, 10 (8.4%) were specialist teachers, and 9 (7.6%) were floating teachers who were teaching in more than one school. In terms of teaching, half 28 (50%) taught primary education, 20 (35.7%) taught infant education, and 8 (14.3%) taught secondary education. They were asked about how satisfied they were with their work in the rural context, and 38 (86.4%) reported being very satisfied, 5 (11.4%) reported being satisfied, and 1 (2.3%) reported not being very satisfied.

**Instrument**

The questionnaire (see Appendix A) used for the survey was designed for the study—with high reliability (α=0.800). It has a semi-open structure to gather quantitative and qualitative data to enhance the study. The instrument collected the responses from the management teams in the rural schools in Asturias. They were asked about local institutions, cultural organizations, businesses, NGOs, universities, and other schools with whom they had shared projects or participated and what roles they felt were played in those projects. They were asked to detail the collaborative projects' objectives and topics and identify funding organizations that provided them with the resources they needed for those projects.

In addition, they were asked about their opinions of the impact of the projects: a) on the school, indicating how satisfied they were with the shared experience; and b) on development in the local area, indicating how—in their opinion—the projects contributed to driving local business and economic activity, the services offered to the community, attracting people to the area or helping people stay in the area, meeting shared needs between the school and the local area, promoting local heritage (tangible or otherwise), and promoting a sense of belonging to the rural context.

**Procedure**

The study phases were as follows:

- *Phase I: Design and validation of the questionnaire*. A pilot study with a small sample representative of the target population confirmed that the questionnaire met the criteria for reliability and validity.
- *Phase II: Data collection*. The Principality of Asturias Department of Education helped send an email asking the heads of each rural school to participate in the study by responding to the questionnaire online.
- *Phase III: Statistical treatment of the collected data*. Using SPSS v26, a descriptive analysis (frequencies and percentages) of the study's target variables was performed.

## Results

The section below summarizes the information collected from the rural Asturian schools' management teams about the projects they had undertaken in collaboration with various local institutions or organizations and their thoughts about the impact of those projects on the local area.

The web of relationships between the schools and the various local organizations encouraged numerous projects (Figure 2). 86.4% of the respondents indicated doing projects with local authorities, and 63.6% undertook educational activities with local cultural organizations (i. e., libraries, ethnographic museums, folk music or artistic associations, etc.). 56.8% reported establishing bridges for collaboration with small farms, local businesses, and COGERSA (an Asturian waste management consortium). 45.5% had various projects with the University of Oviedo, often associated with students from infant and primary education degrees doing practical work. In addition, 40.9% reported collaboration with local NGOs, and lastly, 31.8% collaborated in activities with other schools.

**Figure 2**

*Networks of institutions and organizations collaborating with rural schools*

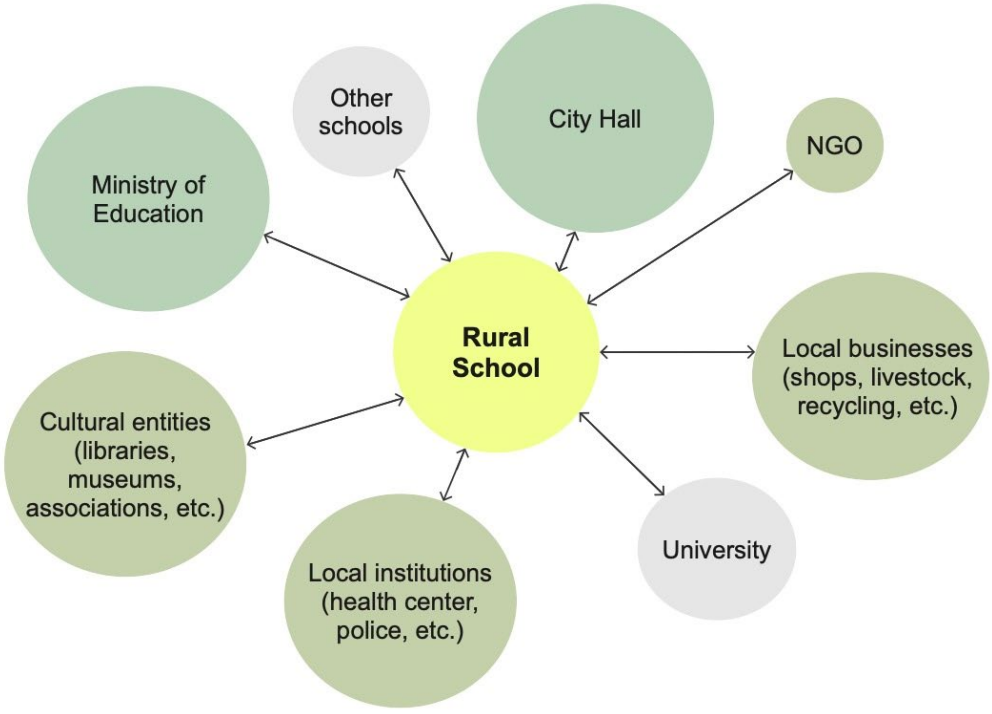
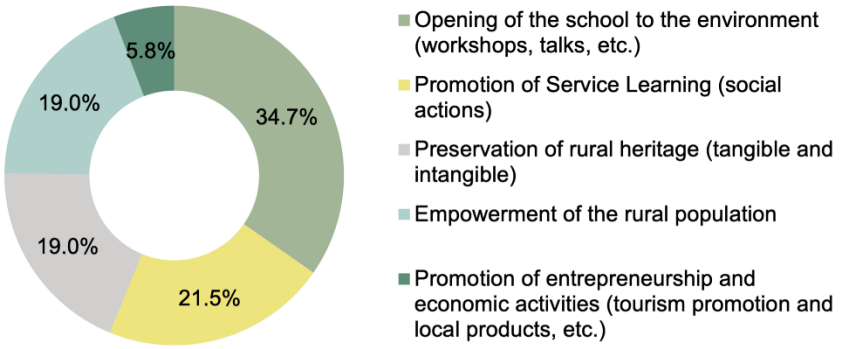



Figure 3 shows that 34.7% of the projects that rural Asturian schools participated in sought to open themselves up to the local area for mutual enrichment, offering local people workshops, conferences, and courses. Just over a fifth (21.5%) promoted service learning by involving the schools in social action (such as accompanying older people or

cleaning up natural spaces). Just under a fifth (19.0%) sought to preserve tangible or intangible rural heritage through conserving typical rural constructions (*hórreos, paneras,* and *cabazos*) or preserving popular folk songs. The same proportion (19.0%) was aimed at consolidating the local population. A smaller proportion (5.8%) promoted business and economic activity by promoting tourism, emphasizing local attractions (archeological sites, prehistoric *Castro* settlements, cave paintings, and local beauty spots), or promoting the production of local or artisan products (such as cheeses, wines, local cakes, and pastries).

**Figure 3**

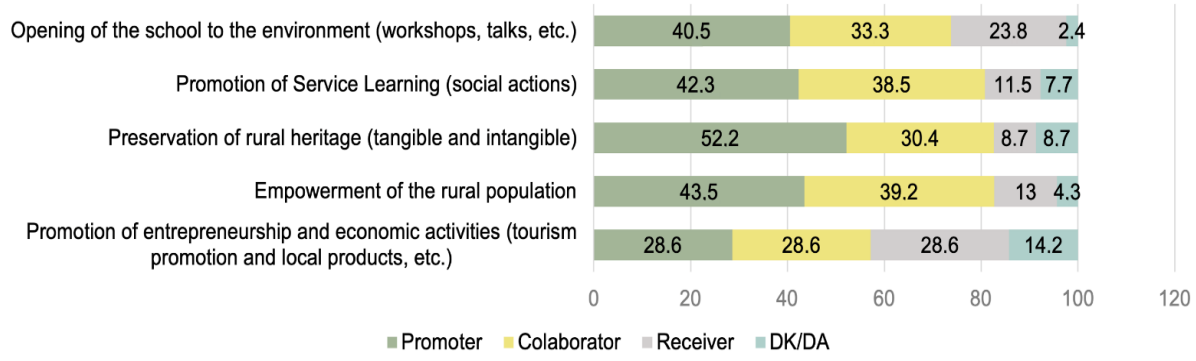
*Shared school projects, grouped by objective*




According to the school management teams, 38.6% of their schools drove the projects they participated in with local organizations and social agents, leading the various activities and phases. 34.1% were active project participants, whereas 22.7% were beneficiaries. More specifically, Figure 4 shows their predominant roles, considering the various projects they were involved in.

**Figure 4**

*Roles played by the schools in the projects they took part in*




Most respondents noted driving or participating in projects prioritizing various topics (Table 2), some of which were associated with Sustainable Development Goals

(SDG) such as caring for the environment, healthy habits, sport, harmonious living, co-education, and interculturality. Others had cultural components, such as reassessing the local area. There were also strictly pedagogical projects related to methodological strategies that affect school education regarding curriculum and values.

**Table 2**

*Percentage distribution of schools by topics prioritized in the projects*

| Themes | Fre(%) |
|---|---|
| a) Sustainable Development Goals (SDGs) | |
| Sustainability and environment | 38(86.4) |
| Healthy habits | 37(84.1) |
| Coexistence, co-education, interculturality, etc. | 36(81.8) |
| Sport Promotion | 26(59.1) |
| Culture (heritage, museums, ethnography, etc.) | 18(40.9) |
| b) Educational Projects | |
| Encouragement to read | 33(75.0) |
| ITC (audiovisual, robotics, STEAM, etc.) | 33(75.0) |
| Emotional education | 32(72.7) |
| Implementation of innovative methodologies | 25(56.8) |
| Scientific learning | 20(45.5) |

The vast majority of schools (86.4%) were involved—with others—in projects closely related to sustainability and care of the environment. It is worth highlighting their links to programs such as School Allotments and Schools for Recycling, in collaboration with COGERSA. Schools also participated in environmental projects such as the Three R's (reduce, reuse, recycle) to promote the circular economy. Some schools collaborated with the Lids for New Life (*Tapones para una nueva vida*) initiative from Fundación Seu. Others were part of the Repsol Zinkers project, aimed at raising student awareness of the need to promote ecological transition and a sustainable economy through recycling.

Most schools (84.1%) participated in projects encouraging healthy habits in collaboration with the Principality of Asturias Health Department. Dental health was a particular interest, especially in critical stages of child development; many schools were

part of a project called A la Conquista de la Boca Sana [The Struggle for a Healthy Mouth] in which pediatricians and dentists took part in activities, workshops, and talks aimed at students and their families. Some schools also collaborated closely with local health centers, inviting health specialists to give workshops about first-aid, hygiene, sex education, and relationships. Others did specific activities related to nutrition and healthy eating habits in collaboration with local shops (i. e., greengrocers, butchers, fishmongers, etc.).

Sport was also a priority for 58.1% of the schools. Concern about playing sports was evidenced through participation in activities promoted by the regional Department for Education, Culture, and Sport, such as inter-school tournaments and competitions. These initiatives also promoted awareness and preservation of sports-related Asturian cultural heritage associated with traditional rural sports and games, with activities run with the assistance of social centers. Schools did other activities with local authorities, such as Yoga for Children, to teach them techniques for relaxation, concentration, balance, and awareness of their bodies. Some schools participated in the *Biciescuela* [Bike-School] program, which promoted cycling as sustainable transport and involved the local police talking about road safety. Most schools also organized fun runs, collaborating with local charities or support groups.

Over three-quarters (81.8%) of the management teams reported that their schools participated in projects that promoted harmony, co-education, and interculturality in collaboration with inter-municipal social services centers to develop equality programs. Participation in the Asturian government's Project *LOITA* (Ley de Ordenación Integral del Territorio de Asturias) [Law of comprehensive planning for the territory of Asturias] was significant, aimed at enhancing synergies between rural and urban areas and mutual enrichment. Specifically, it raised awareness of the role of rural schools and the benefits of their teaching model (small class sizes, multi-grade classrooms, personalization, innovation, cooperation, family involvement, contact with nature, etc.) while bringing cultural opportunities enjoyed in larger cities.

Some schools were involved in the *Rompiendo distancias* [Breaking Distances] program to encourage intergenerational communication. Similarly, other schools encouraged activities with older people through projects such as *Güelifriends* [Grandfriends] for sharing experiences through enjoyable activities. Other projects were aimed at equality and diversity, involving families in the educational process. In addition, supportive activities were done in collaboration with charities such as Save the Children with others helping people experiencing homelessness (*Asociación Albéniz*) or helping children with cancer (*Asociación Galbán*).

There was a particular emphasis on co-educational projects with schools participating in activities together with nationally recognized organizations such as the *Centro Mujer y Ciencia* [Center for Women and Science] (Centro Superior de

Investigaciones Científicas, CSIC) and internationally recognized bodies such as WISE Diversity (Centro Nacional de Investigaciones Oncológicas, CNIO) [National Center of Oncological Research] to promote female talent in science. This was complemented by events such as Women's Week and projects highlighting women's careers in science. In addition, spaces for debate were created where women from various professions spoke, underscoring their contribution to society. Similarly, intercultural projects were organized to understand other countries and their peculiarities, promoting acceptance and help for migrant families or families from different cultures.

Around two-fifths (40.9%) of the schools ran cultural projects with local or regional organizations to raise awareness of the ethnographic heritage in towns and villages (i. e., museums, visitor centers, etc.). The *Rutas para Compartir* [Routes for Sharing] projects brought together rural schools from various regions to highlight their cultural richness through exchanging traditions, language traditions, folklore, food, etc. Other projects promoted local tourism by producing informative walking routes. Some schools opted for service learning and did social activities that combined tradition and business (such as making and selling typical local desserts, artisan wood products, etc.). Artistic projects, such as *ConectArt* and *El Museín,* brought various schools together. Others held competitions for drawings, making the local area and the school into artistic objects and collaborating with local artists to decorate the local surroundings (such as building facades and garage doors) (Figure 5).

**Figure 5**

*The Trampantojos art project in the village of Vega (Asturias)*

*Note.* Ribadesella Town Hall.

Projects of a more pedagogical nature should not be ignored. Three-quarters (75.0%) of the schools did activities related to encouraging reading in collaboration with municipal libraries (such as reading activities and storytelling). These included the Travelling School Library, promoting the exchange of books between various rural schools, and participation in national and regional competitions. 72.7% of the schools incorporated activities about emotional education via workshops or stories. A similar proportion (75.0%) were part of projects to develop digital competencies in the audiovisual sphere, robotics, STEAM, and computational thinking.

A little over half (56.8%) of the rural schools were concerned about offering quality education, employing innovative methodologies in collaboration with the University of Oviedo, such as the *Caravana de los Sentidos* [Caravan of the Senses] project (Figure 6). This involved the creation of an interactive multisensorial stimulation classroom, encouraging learning by discovery and developing motor, social, and intellectual skills, particularly in children with special educational needs.

**Figure 6**

*The Caravan of the Senses project*

*Note*. Padre Ossó Faculty (University of Oviedo).

Other schools participated in the eTwinning project, which promoted collaborative work between European schools around a set topic to stimulate soft skills. Students sometimes participated in business projects linked to local development to benefit the local population (such as sociocultural activities, care, physiotherapy, digitalization in the third age, etc.), which even won national prizes. Other activities included the creation of Learning Academies, Young People with Ideas, and the Time Bank. Some schools collaborated with the sociocultural business Arkuos, which offered alternative learning spaces (Figure 7), encouraging participation and inclusion for the whole community.

**Figure 7**

*Arkuos: Space for Socioeducational Activity.*

*Note.* Arkuos Center (https://arkuos.org/)

Just under half (45.5%) of the schools did activities linked to scientific learning, participating in regional events as part of Science Week with other schools or the university. More specifically, some participated in the initiative from the Ministry of Science and Innovation and the business LabsLand, with the R3 Project: Rural, Remote, and Real—promoting natural science and technology practice in rural schools and training centers through remote experiments or simulations where the students interact

through a web interface, with their hands on the mouse and their eyes at the webcams (https://proyecto-r3.ingenieria.deusto.es/).

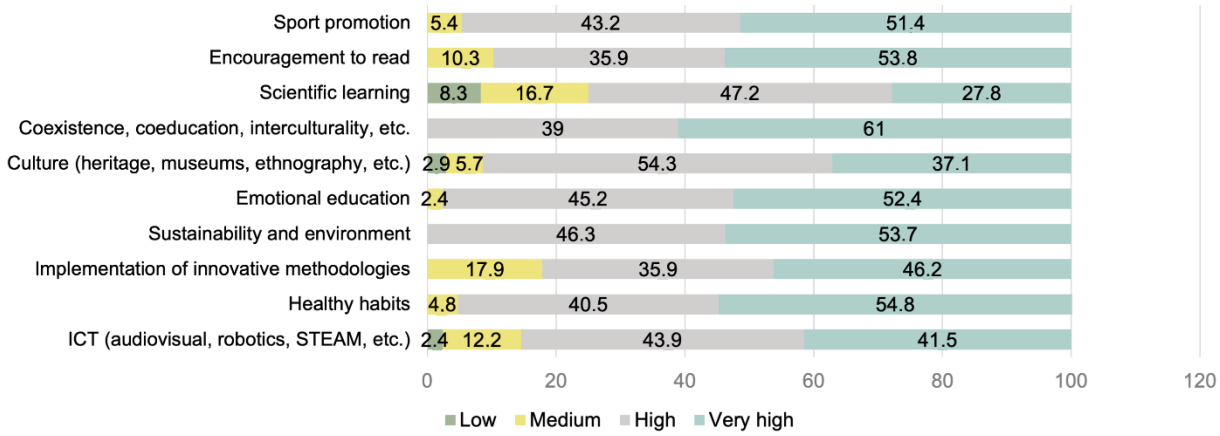
Lastly, other schools participated in PROA+ projects [Program for Guidance, Advancement, and Educational Enrichment] from the Ministry of Education to give guidance to educationally vulnerable students and reduce school dropout. Some schools collaborated with the Municipal Department for Childhood and Adolescence, a consultative body that organizes children's participation, giving them a space where they can express their ideas and make decisions in the local environment about issues that affect them directly or indirectly.

All the schools received funding for their projects from the Asturian Department of Education. Almost a third (31.8%) reported that their local town councils contributed to sustaining some of their initiatives and projects. A quarter (25%) of schools indicated that they received funding from the national Spanish Ministry of Education. 16.0% reported getting financing from their own schools or parent-teacher associations. A smaller proportion (6.8%) of the schools received help from private businesses for particular activities or to acquire resources.

Regarding the projects' impact and contribution to local development, the management teams' satisfaction with their collaborations with various local institutions and organizations depended on the subjects the projects addressed. Those related to harmony, co-education, interculturality, etc., and those aimed at education about sustainability and the environment produced the highest levels of satisfaction (Figure 8), followed by those about emotional education and healthy habits.

**Figure 8**

*Percentage distribution of management teams according to satisfaction with projects*

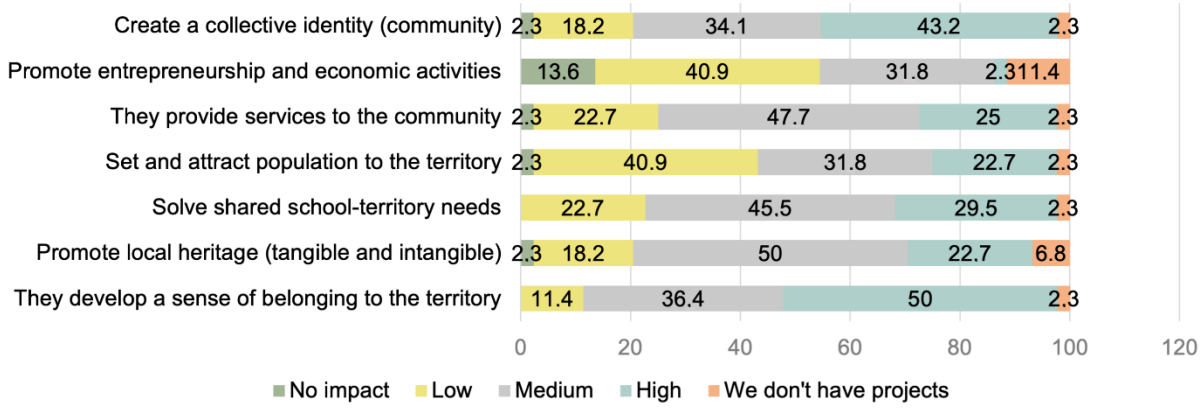



Most (86.4%) of the schools stated that they undertook projects that promoted a sense of belonging to the local area (Figure 9). Just over three-quarters (77.3%) said that their activities made a notable contribution to the creation of a collective identity. A similar

amount (75.0%) reported promoting initiatives that met the school and the local area's needs. Just under three-quarters (72.7%) said promoting local heritage (tangible or intangible) whereas around half (54.5%) announced initiatives that helped attract people to or keep people in the local area. Finally, around a third (34.1%) reported that their activity encouraged local business and economic activity.

**Figure 9**

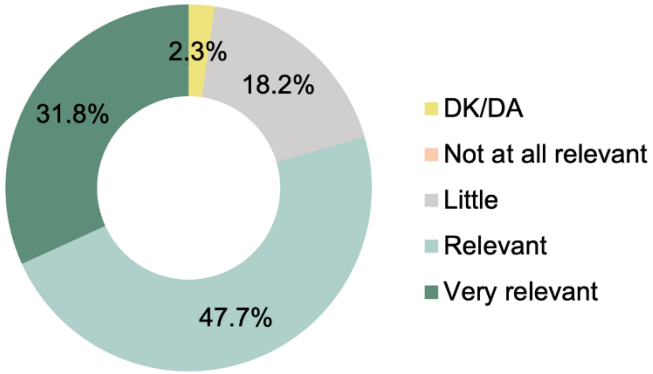
*Percentage distribution of opinions about the impact of projects on the local area*




In response to the question about the schools' roles in local development, 68.2% identified them as active collaborators. However, 15.9% assessed it as relatively unimportant with only 9.1% indicating leadership and drive as the role played. The most critical respondents thought the schools' role was unrelated to the local area's needs (2.3%). On the other hand, when asked about schools' roles in promoting and creating collaborative networks with local institutions and organizations, 80.0% considered it to be important or very important (Figure 10).

**Figure 10**

*Percentage distribution of the role of the schools in creating and promoting collaborative networks in their local areas, according to their management teams*



## Discussion

The schools' management teams felt rural schools in Asturias to be a source of stimulus for the local area as most demonstrated having undertaken cultural activities together with local institutions as well as participated in projects with local cultural and social centers, libraries, ethnographic museums, and more, which involved various sectors of the population. Along similar lines, López-Álvarez et al. (2011) emphasized the central role of ethnographic museums together with schools for consolidating Asturian cultural values, solidifying bonds with the community, collecting and interpreting people's voices or testimony, and also offering guided or educational visits and workshops to enhance students' understanding of it so that visitors may be enriched by their heritage, value it, and look after it so that it lasts.

The schools also built bridges with local farms and shops, charities, recycling plants, and others, seeking an exchange of experiences and helping their students be aware of what these local businesses do so as to recognize their roles in rural development. It is worth highlighting the collaborative initiatives to transform the classroom into flexible learning spaces to develop 21st-century competencies. These local bodies are considered innovative learning environments and are a shared ecosystem where the student and their local community converge, as Carvalho et al. (2020) noted.

More generally, there is an essential collaborative network with diverse agents and organizations from schools' surrounding areas as the basis for various projects. In this regard, our results are consistent with the results from Álvarez-Álvarez and Vejo-Sainz (2017), who highlighted innovative projects in rural schools in Spain that were supported by the cooperation of public and private bodies.

Similar to the conclusion from Meyers et al. (2015), the links between rural schools and the university allowed the exchange of experiences and collaboration in joint projects, which provided mutual enrichment. More specifically—and despite the distances, in some cases from around 100 km away—around half of Asturian schools exhibited a smooth-flowing relationship with the University of Oviedo in Spain. These schools collaborated with practical components of the Infant and Primary Teaching degree to help facilitate degree completion of future teachers. They also shared projects that affected aspects of environmental education (Pérez-Solís & Torralba, 2021) and developed narrative competencies with digital applications (Del Moral et al., 2022), and so forth. However, other schools felt excluded from innovative projects to strengthen relationships between teaching teams and university research groups. This finding indicates a need to enhance the capacity of rural schools as a unique learning space, as noted by Monge et al. (2022), because teachers' initial training does not ensure the specific competencies for working in these schools at an organizational or functional level, something also recognized by Downes and Roberts (2017) about Australian schools.

Most of the respondents underscored the role of the school as a driver and collaborator in the projects they participated in. The school focuses on cultural stimulation for the area, which is realized through the educational projects they lead. It emphasizes being open to the local area by driving social actions and contributing to preserving local heritage. In addition, schools indirectly encourage the rural population to stay in the area as the schools there ensure that families will be in the villages (Lehtonen, 2021). Logically, schools are not in the business of promoting local tourism or local business, but their collaboration with local organizations may help reactivate life in the villages, and help generate work and wealth.

Looking at the subjects prioritized in the projects the schools participate in, many are in line with what has been laid down by supranational organizations such as the United Nations, as they are linked with sustainable development goals (e.g., education, sustainability, healthy habits, etc.), that help build bridges with their local areas. This finding coincides with the study by Dieste et al. (2019), who showed the treatment of SDG-related topics in rural schools in Zaragoza (Spain), with particular attention to cultural diversity, gender equality, responsible consumer habits, and solidarity. Schools also undertook purely pedagogical projects that had an impact on children's education in these areas through methodological innovations such as using ICT, STEAM, and scientific learning in an attempt to bridge the digital divide by offering rural students the same opportunities as students in urban environments as other countries also do (Kormos & Wisdom, 2021).

In parallel, initiatives also prompted participatory culture through fun, non-formal education spaces open to the community. Schools also drove the creation of networks in the local area through collaborative activities with geriatric care centers, people experiencing homelessness, or other schools through intercultural, co-educational projects promoting respect and attention to diversity. In addition, some activities raised awareness of the cultural wealth and traditions in the schools' local areas (e.g., linguistic variety, folklore, food, etc.). A few projects promoted rural tourism: educational walking routes, decorating the local environment with local artists, social action combining tradition and business, etc. Occasionally, students even participated in business projects linked to local development to benefit the local population, such as closing the digital divide in the third age, facilitating physiotherapy, and engaging in sociocultural activities.

## Conclusion

More generally, rural schools in Asturias demonstrated examples of the three forms of involvement in the community proposed by Miller (1995, cited in Supule, 2019) as they offered services for the local population, such as courses and workshops, undertook various types of activities and projects linked to the local area, and, to a lesser extent, promoted initiatives for business that supported local industry and the local economy.

It is also important to highlight rural schools' great interest in recognizing the role of teachers as stimulators for the area and spreaders of culture by collaborating with nearby institutions and organizations and raising awareness of their social and teaching work. The respondents had very positive opinions of the shared projects, noting their significant impact on the school and the local area. There is no doubt that rural schools create collaborative networks that increase the feeling of belonging to the local area while encouraging people to settle or stay there. However, there is a need for logistical and economic support from local institutions and organizations to strengthen a school's role as a stimulator, to be informed of possible sources of funding and potential national and international projects, and to support the teams managing them and the teachers.

This study offers a broad view of rural schools in Asturias, which may be compared with the other Spanish regions—and other countries—to identify common problems and effective responses to those problems, establishing and consolidating collaborative networks that would amplify the synergies with local areas.

## Acknowledgments

This work was supported by the Ministry of Science and Innovation of Spain [reference: PID2020-115880RB-100]. It belongs to the Research Project “La escuela rural: un servicio básico para la justicia social y la equidad territorial en la España con baja densidad de población” [Rural School: a basic service for social justice and territorial equity in Spanish areas with low population density].

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## Appendix A

## Rural schools and their relationships with the context

Research Project I+D+I: *The rural school: a basic service for social justice and territorial equity in Spanish areas with low population density.* Supported by the Spanish Ministry of Science and Innovation (PID2020-115880RB-I00)

| 1. PERSONAL INFORMATION | |
|---|---|
| **Variables** | **Categories** |
| 1.1 Gender | - Woman<br>- Man<br>- Other |
| 1.2 Age | - up to 24 years old<br>- 25 - 29 years old<br>- 30 -34 years old<br>- 35 - 39 years old<br>- 40 - 44 years old<br>- 45 - 49 years old<br>- 50 - 54 years old<br>- 55 - 59 years old<br>- 60 - 64 years old<br>- More than 64 years old |
| 1.3. Teaching experience (years) | - Up to 5 years<br>- Between 6 and 10 years<br>- Between 11 and 15 years<br>- More than 5 years |
| 1.4. Contractual situation | - Permanent teacher<br>- Temporary teacher |
| 1.5. Years of teaching in rural schools | - Up to 5 years<br>- Between 6 and 10 years<br>- Between 11 and 15 years<br>- More than 15 years |
| 1.6. Current role as teacher | - Home room tutor<br>- Member of the management team<br>- Floating teachers (teaching in more than one school)<br>- Specialist teacher<br>- Docente Compartido |
| 1.7. Educational stages | - Infant Education<br>- Primary Education<br>- Secondary Education |

| | |
|---|---|
| 1.8. Type of school where you teach | - Unitary School<br>- CEIP (Infant and Primary Education School)<br>- CRA (Grouped Rural School)<br>- CPEB (Public Basic Education School)<br>- EEI (Infant Education School)<br>- Home School<br>- Other |
| 1.9. Area of Asturias where your school is located | (Avilés, Caudal, Eo-Navia, Gijón, Nalón, Narcea, Oriente, Oviedo) |
| 1.10. Type of class organization at your school | - Multi-grade class<br>- Ordinary class |
| 1.11. Please indicate your satisfaction level from working in a rural environment | - Not satisfied<br>- Little satisfied<br>- Satisfied<br>- Very satisfied |

**2. COLLABORATIVE PROJECTS BEWTEEN THE SCHOOL AND THE TERRITORY**

| Variables | Categories |
|---|---|
| 2.1. Does your school develop or has recently developed shared projects shared with local organizations or social agents? | - No<br>- Yes, with business (local shops, livestock, waste management consortium, etc.)<br>- Yes, with NGO<br>- Yes with local institutions (council, police, medical center…)<br>- Yes, with cultural organizations (libraries, ethnographic museums, folk-music or artistic associations, etc.).<br>- Yes, with other schools<br>- Yes, with the University<br>- Other (please, specify)<br>- DK/ DA |
| 2.2. From whom you receive economical support? | - Ministry of Education<br>- Department of Education<br>- Council<br>- School<br>- Private entity or local business<br>- We don't receive economical support<br>- Other (please, specify)<br>- DK/DA |
| 2.3. Please, indicate the objectives of your projects | - To open the schools to the rural environment for mutual enrichment (workshops, talks, etc.).<br>-To promote entrepreneurship and economical activities (tourist promotion and local products).<br>- To promote Service-Learning (school serving the community with social actions)<br>-To contribute to the preservation of the rural heritage (tangible and intangible )<br>- To avoid depopulation<br>- Other (please, specify)<br>- DK/DA |

| | |
|---|---|
| 2.4. Topics addressed in the projects | - Reading promotion<br>- Culture (heritage, museums, ethnography...)<br>- Sustainability and environment<br>- Coexistence, coeducation, interculturality, etc.<br>- Emotional education<br>- Sport promotion<br>- Healthy habits<br>- Scientific learning<br>- Implementation of innovative methodologies<br>- ICT (audiovisuals, robotics, STEAM, etc.)<br>- Other (please, specify)<br>- DK/DA |
| 2.5. Please mention the current main projects of your school (name of the project, educational stage, organizations that participate, etc.) | (open answer) |
| 2.6. Please indicate the role played by your school in the projects | - Recipient.<br>- Active collaborator. The school participates actively<br>- Promoter. The school leads all the actions and stages<br>- DK/DA |
| 2.7. Regarding the projects shared with the entities and/or social agents, please indicate the type of communication | - Department of Education<br>- Council<br>- Other local institutions (police, medical center…)<br>- Cultural associations (libraries, museums, folk-music associations, etc.).<br>- Schools<br>- University<br>- Private organization or business.<br>- NGO<br>- Other (please, specify)<br><br>(Type of communication: none, occasional, frequent, we do not collaborate) |
| 2.8. Please indicate your general level of satisfaction with the projects developed. | - Sport activities<br>- Reading promotion<br>- Scientific learning<br>- Coexistence, coeducation, interculturality, etc.<br>- Culture (heritage, museums, ethnography...)<br>- Emotional education<br>- Sustainability and environment<br>Implementation of innovative methodologies<br>- Healthy habits<br>- ICT (audiovisuals, robotics, STEAM, etc.)<br>- Other (please, specify)<br><br>(Level of satisfaction: not satisfied, little satisfied, satisfied, very satisfied, without projects about this topic) |
| 2.9. Please indicate the level of impact of the projects, regarding these aspects related to local development | - Creating a collective identity (community)<br>- Promoting entrepreneurship and economical activities<br>- Providing services for the community<br>- Contributing to attract and keep people in the local area |

| | |
|---|---|
| | - Responding to shared needs school-territory<br>- Promoting the local heritage (tangible and intangible)<br>- Developing the sense of belonging to the territory<br><br>(Level of impact: None, Low, Medium, High) |
| 2.10. From your point of view, please indicate the role of the school in creating and promoting collaborative networks in the local areas. | - Not at all relevant<br>- Little relevant<br>- Relevant<br>- Very relevant<br>- DK/DA |

*Theory & Practice in Rural Education (TPRE)*
2024, Vol. 14, No. 1, Pp. 183-201
Copyright 2024 ISSN:2641-7170
https://doi.org/10.3776/tpre.2024.v14n1p183-201

# Novice Teacher Recruitment and Retention in a Rural Midwestern State: An Exploration of Contextual Factors

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Teacher recruitment and retention consistently emerged as problematic in research and practice. This was particularly true in difficult-to-staff areas, such as rural school districts in the United States. As the teacher pipeline continued to decrease and various challenges plagued the field, this problem quickly became a crisis. The present study aimed to lift novice teachers' voices in rural and remote rural areas of a Midwestern State better to understand individuals' experiences in a rural setting and contribute to the current knowledge base of rural teacher recruitment and retention. Eleven participants in this qualitative phenomenological study aimed to uncover the specific contextual factors that influenced their experiences as novice teachers in a rural Midwestern State. Interviews revealed the need for direct support from administrators and colleagues to create a sense of belonging, which was imperative to positive novice teacher experiences. The need for appropriate preparedness within their preservice experiences and coursework, as well as solid induction and mentoring programs once hired, surfaced during the interviews. Rural-specific field experiences paired with comprehensive induction and mentoring programs focused on specific feedback prepare preservice teachers and novice teachers for successful rural teaching and living. Intentional recruitment efforts, including grow-your-own programs for future teachers and partnerships between rural school districts and teacher preparation programs, boosted the pipeline of novice teachers for rural areas.

***Keywords*: rural education, teacher recruitment, teacher retention, induction, mentoring programs**

Over the past few decades, teacher retention has been a growing area of concern for educators, school administrators, and policymakers (Brown & Wynn, 2007; Darling-Hammond, 2010; DeAngelis et al., 2013; Ingersoll, 2012; The Holmes Group, 1986; Whalen et al., 2019). Increased attention has been placed on novice teacher attrition and migration in rural areas and the potential recruitment and retention efforts that may be more effective with this population and in these areas (Curtin, 2018; Oyen & Schweinle, 2020; Pietrzak et al., 2011; Price Azano et al., 2020; Zubrzycki, 2017). Additionally, novice teachers' experiences were context-specific and limited in scope compared to veteran teachers; therefore, to better understand and improve these experiences, to increase self-

efficacy among this group, and to retain the novice teachers that have been recruited, we need to look at the contextual factors of their school environment and demographic information that may impact their decision to stay in the profession.

Many factors have previously been identified as why novice teachers move to other schools or districts or leave the profession altogether. These factors included but were not limited to lack of administrator support (Brown & Wynn, 2007; Greenlee & Brown, 2009; Ingersoll, 2012; Prather-Jones, 2011; Price Azano et al., 2020; Zhang & Zeller, 2016), limited professional development and training opportunities (Boe et al., 2008; Podolsky et al., 2019), low student achievement (Ingersoll & Strong, 2011; Monk, 2007), lower salaries (Berry & Gravelle, 2013; Curtin, 2018; Zubrzycki, 2017), and lack of adequate preparation to cope with the challenges facing today's teachers such as increased student behavioral and academic needs, limited resources, and poor working conditions (Brown & Wynn, 2007; Darling-Hammond, 2003; Monk, 2007; Podolsky et al., 2019; Zhang & Zeller, 2016; Zubrzycki, 2017). Moving forward to experience higher teacher retention rates within rural areas, it was imperative to discover how to best prepare and recruit novice teachers to these areas. It was important to learn how various contextual factors within their social/professional experiences and the novice teachers perceived self-efficacy influenced attrition and migration rates of novice teachers within these regions.

Teacher recruitment and retention in rural areas and among novice teachers was an increasingly critical area within the field of education as more and more teachers are leaving the profession or their rural districts for other careers or more populated areas (Zubrzycki, 2017). Gagnon and Mattingly (2015) asserted that students within rural districts are disadvantaged due to the continual placement of novice teachers in these classrooms. Novice teachers were less experienced and often inadequately prepared to face the challenges within rural settings.

Teacher mobility and attrition over the past four decades contributed to this concern, as the percentage of teachers leaving the profession grew from 5.6% during the late 1980s to 8% during the 2020-21 to 2021-22 school year transition, with some school years seeing the percentage increase to 8.4% (Taie & Lewis, 2023). This, coupled with increasing K-12 student populations in many areas and decreasing teacher preparation program participants (Zubrzycki, 2017), only compounded the problem in certain areas of the country where difficult-to-staff schools exist. Teacher job openings within this rural Midwestern State reached record highs for the 2022-2023 school year (Associated School Boards of South Dakota, 2023), and school districts began the 2023-2024 school year with just over 180 unfilled teaching positions (Seamer, 2023).

According to Ratcliffe et al. (2016), the U. S. Census Bureau reported a shift in population growth, which has caused the rural population nationwide to decrease dramatically. The decline in rural population has led to a diminishing pool of preservice

teachers available and willing to work in these areas. Furthermore, fewer of these teachers have rural living experiences beneficial for success in such roles (DeFeo & Tran, 2019; Zubrzycki, 2017). Teachers living and working in a community assessed how well their values align with those of the community and whether they feel welcomed. This sense of belonging was particularly important for rural educators (Wynhoff Olson et al., 2022).

By nature of their preparation level, novice teachers had less experience overall. They were not fully prepared for the challenges faced in rural settings, such as increased poverty (Monk, 2007), limited professional and social interactions outside of the school setting (Berry & Gravelle, 2013), and locations far from urbanized areas with more resources (Beesley et al., 2010). Additionally, teachers in rural settings do not often hold advanced degrees (Gagnon & Mattingly, 2015). This lack of experience and insufficient advanced training and knowledge highlight an equity gap affecting PreK-12 students in rural settings (Gagnon & Mattingly, 2015). This could mean these students did not have comparative educational experiences with their peers living in areas where novice teachers were more likely to hold advanced degrees (Cardichon et al., 2020; Ingersoll, 1999). Additional equity and student achievement concerns continued to concern rural schools. If these novice teachers lack advanced experiences, their students may not reach their highest potential due to the teachers' lack of confidence in their teaching abilities (Hoy & Spero, 2005; Kaufman & Ireland, 2016).

According to the U. S. Census Bureau (2016), *rural* is defined as an area with less than 2,500 people. The National Center for Education Statistics (2018) described rural fringe areas as those areas less than or equal to five miles from an urbanized area or less than or equal to 2.5 miles from an urban cluster, while rural, remote areas are defined as areas more than 25 miles from an urbanized area and more than 10 miles from an urban cluster.

## Theoretical Framework

Albert Bandura's Theory of Self-Efficacy (1977) emerged from studies in human behavior and behavioral change, particularly within the areas of phobias and social cognitive theories. Bandura first described self-efficacy as how someone may think about their ability to complete tasks based on previous attempts and their successes or failures. According to Bandura's work, there were "four major sources of information: performance accomplishments, vicarious experience, verbal persuasion, and physiological states" (p. 195) that affected the development of self-efficacy. Because self-efficacy can be manifested in several ways and the fact that self-efficacy is related to the outcome expectations the individual then holds for their success or failure at a given task, the Theory of Self-Efficacy has been used in many academic areas (Artino, 2012). This was also the case for preservice and novice teachers as they developed self-efficacy within their field experiences and early career experiences. When preservice and novice

teachers observed veteran teachers perform teaching tasks successfully, gained valuable insight from these cooperating teachers/colleagues and other school staff, learned from the successes and failures they experienced early on in their own experiences, and obtained feedback in areas such as pedagogy and classroom management from their university supervisors and building administrators they gained additional self-efficacy (Gamborg et al., 2018). Developing a solid level of self-efficacy early on in their careers could affect how these novice teachers find fulfillment in their positions and choose to continue teaching in the field (Kaufman & Ireland, 2016).

## Teacher Recruitment and Retention in Rural Areas

Many factors played into the concern regarding teacher recruitment and retention, especially in rural areas. While one of these factors was low pay, which hindered recruitment and retention efforts, another critical factor was the lack of license reciprocity among states (South Dakota Blue Ribbon Task Force, 2015; Darling-Hammond, 2001). Lack of license reciprocity posted invisible fences along state lines, making it more difficult for states to recruit teachers from neighboring states. Establishing parameters that allow license reciprocity created a deeper candidate pool for some states and districts, which may provide more high-quality candidates for their students (Podolsky et al., 2019).

In this midwestern rural State, the Blue Ribbon Task Force (2015) explained that one concern in the State is preparing enough teachers to replace those aging out of the profession due to retirements and those leaving the profession altogether. However, as Darling-Hammond (2001) emphasized, the problem does not end when we have enough teachers in the pipeline. According to Darling-Hammond, "keeping the teachers we prepare" (pp. 7-8) was the most significant challenge and has been a continual issue since the 1990s. Gamborg et al. (2018) stated that around 50% of novice teachers leave the profession within the first five years, so keeping these teachers in the profession is a valid concern. Multi-year induction programs that involved mentoring and participation within the school community increased the novice teachers' self-efficacy, thus increasing the likelihood they will stay within the field (Clark, 2012; Gamborg et al., 2018; Hoy & Spero, 2005; Ingersoll, 2012; Voss & Kunter, 2020; Youngs, 2007).

## Leadership and Teacher Retention

According to Le Cornu (2013), in schools where principals had developed and nurtured positive, supportive relationships with staff and created a culture of shared vision and responsibility, novice teachers grew and gained resiliency in their teaching practices. When new teachers thrive and feel supported, they are more likely to continue within their careers (Ingersoll & Strong, 2011). Thereby, developing trust with building principals early on within, and even before, their career established the professional relationship as one of growth and development in the best interest of the teachers and their students (Range et al., 2013). Thus, this could be done through participation in teacher preparation programs through observations, learning walks, and engaging in deliberate conversations

with preservice teachers, mainly if these experiences were occurring within intentionally designed professional development, schools, and other school-university partnerships that helped foster these relationships (Ashley, 2016; Darling-Hammond et al., 2002; Tracz et al., 2018).

Building principals and other school leaders hold the responsibility for helping new teachers forge professional and working relationships with other teachers, which in turn offered mentoring and support in the school setting throughout these first few formative years of the novice teachers' careers (DeAngelis et al., 2013; Gagnon & Mattingly, 2015; Ingersoll & Strong, 2011). In rural areas, however, this proved to be difficult due to limited numbers of staff members, staff members with similar workloads and fields of study, and distance between districts. Hence, school leaders needed to provide online opportunities for these connections to occur and flourish, as well as allow access to state-sponsored mentoring programs and other opportunities for professional growth and development in the form of attendance to conferences or workshops and membership within professional organizations (Monk, 2007).

The principal's role in teacher retention included providing adequate support with challenging situations, whether it be general workload, student behaviors, and discipline, or parent concerns (Arnett, 2017; Brown & Wynn, 2007; Brown & Wynn, 2009; Ingersoll, 2012; Prather-Jones, 2011). As Hughes et al. (2015) suggested, principals who acknowledge that teaching is difficult work put forth effort in cultivating and maintaining a positive, productive culture through effective communication and retain more teachers for extended periods. This support, coupled with strong instructional leadership and articulated shared vision, not only built individual teacher's self-efficacy levels but also paved the way for collective efficacy within a school (Ingersoll et al., 2018).

Providing adequate induction programs is also critical to retaining novice teachers (Youngs, 2007). Comprehensive induction programs for novice teachers include several components such as meetings with mentors, review of district or building routines, procedures, and expectations, and lesson observations followed up with specific feedback regarding instructional strategies, all of which work together to establish a solid support system, continual learning and training opportunities, and multiple avenues through which novice teachers can seek out and receive the support needed to experience success during the first few years of their careers (Brown & Wynn, 2007; Gamborg et al., 2018; Ingersoll, 2012; Ingersoll & Strong, 2011).

## Purpose and Research Questions

Teacher recruitment and retention in rural areas and among novice teachers was an increasingly critical area within the field of education as more and more teachers are leaving the profession or their rural districts for other careers or more populated areas (Ingersoll, 2012; Zubrzycki, 2017). Understanding novice teachers' experiences was critical to understanding the teacher shortage and existing recruitment and retention

issues. Suppose we fail to fully understand these experiences or the contextual factors impacting novice teachers' decisions to stay or leave their current positions or the profession. In that case, we will not resolve the issue. Instead, we will continue to see increased turnover rates among this group of individuals, resulting in more significant problems regarding lost resources due to additional costs in recruiting, hiring, mentoring, and training and other onboarding costs, negatively impacting school culture and student achievement (Brown & Wynn, 2007; Brown & Wynn, 2009; Ingersoll, 2012).

This study aimed to explore novice teachers' lived experiences in a Midwestern State and work at articulating the contextual factors that impacted these individuals' migration, retention, and attrition decisions. The guiding questions for this study were:

1. What is the lived experience of novice teachers in a rural state?
2. In what contexts are these experiences situated?

## Methodology

The purpose of this transcendental phenomenological study was to gain insight into novice teachers' lived experiences in a rural setting and discover and explain contextual factors and their influence on novice teachers' decisions regarding the future of their careers while describing these teachers' full experiences. This approach provided a perspective allowing others to hear these participants' voices as they tell their experiences in a rural, rural fringe, or rural, remote community and school district, some of which were two or more consolidated communities.

The transcendental phenomenological approach was applied to provide stakeholders with a textural and structural description of these experiences to understand the unique needs of novice teachers better and more fully within a rural state and the distinctive experiences they face. These unique experiences included but were not limited to isolation from colleagues (Ingersoll, 2012) for a variety of reasons, such as being the only or one of few teachers with specific certification areas (DeFeo & Tran, 2019), being a member of a small staff and small community (Monk, 2007), and having minimal access to additional resources for students such as special education services and English language learner services (Monk, 2007).

### Data Collection and Analysis

Semi-structured, one-on-one interviews comprised demographic and contextual questions about the novice teachers' experiences and future career plans (specifically those involving migration, retention, or attrition) and the deciding contextual factors for these plans. Questions regarding the novice teachers' reflections on their experiences and the learning they have experienced were also asked.

#### *Trustworthiness*

Trustworthiness in the design was established through member checking, which allowed the participants to clarify any data drawn from the interviews (Creswell & Miller, 2000; Hycner, 1985). An interview protocol detailing the process by which interviews were conducted can be found in Appendix A. This was a crucial step, as Lincoln and Guba (1985) emphasized member checking as "the most crucial technique for establishing credibility" (p. 314). Additionally, field notes were used during data collection and analysis to note contextual information to help create a thick description that allowed the reader to assess transferability. This step aligned with Shenton's (2004) criteria for trustworthiness in a study, ensuring this research's transferability, credibility, dependability, and confirmability throughout the design process.

After transcribing the interviews, the researchers began the data analysis process by thoroughly reading the transcriptions multiple times to reflect upon the interviews. They explored the participants' words, phrases, and overall themes (Creswell & Poth, 2018). From this point, the researcher examined the interviews, looking for units of meaning and clusters of these units (Hycner, 1985). As these units and clusters emerged, the researchers discovered themes throughout the interviews and across participants that may have pointed to any contextual factors that played a role in novice teachers' experiences and future career decisions. This led the researchers to develop a textural and structural description of the novice teachers' experiences in their rural teaching positions (Moustakas, 1994). Theme discovery was accomplished using a coding method. The researchers began by creating a digital matrix containing repeated and relevant words and phrases from the participants. Then, they moved toward a frequency chart as themes started to emerge. The frequency chart showed how often statements related to a specific theme were made. Throughout the analysis process, memoing and annotating the transcripts were utilized as a reflective and analytical method where the researchers noted the emerging ideas, phrases, and other concepts (Creswell & Poth, 2018).

### *Population*

This study focused on the districts considered rural, rural fringe, and rural remote, and the target population for this study consisted of novice teachers across a Midwestern State within their first five years of teaching. This population contained novice teachers from rural school settings, as well as a variety of other contextual factors, including school size, school type (public or private), level of school (elementary, secondary, or K-12), and the distance of their school site to major urban areas within the State. This Midwestern State housed 150 public K-12 school districts, 47 non-public school systems, 19 tribal/BIE schools, and one state school (Midwestern State Department of Education, 2020).

There were 11 participants in the study—three male and eight female. Most of the participants were white. All participants were in their first five years of teaching and, at the

time of the interviews, were teaching within a rural district within the Midwestern State. The participants' content area and grade levels varied, as did the number of years of teaching experience each participant had. Two participants were special education teachers (one grade 9-12, one grade K-6), two were fine arts teachers (one K-12 art, one 5-12 music), three were middle school teachers, two were high school teachers, and two were elementary teachers. Participants were selected through purposeful criterion sampling, where novice teachers in rural districts were asked to participate. Purposeful criterion sampling was used for sample selection in this study. Each participant met the criteria of having five years or less of teaching experience and, at the time of the study, was teaching in a rural, rural fringe, or rural, remote school district in the Midwestern State.

## Findings

Seven predominant themes emerged from the analysis of data obtained from coding and clustering the interviews with rural novice teachers: (a) preparedness for rural teaching and/or living, (b) motivation to stay in or leave the profession or State, (c) sense of belonging in the school and community, (d) impact of administrator support on teacher self-efficacy, (e) impact of colleague support on teacher self-efficacy, (f) impact of mentoring and/or induction program on teacher self-efficacy, and (g) local contextual factors.

Through this study, the participants expressed varying levels of preparedness for rural living and/or teaching, a sense of belonging, support, recruitment efforts, and motivation to remain teaching in the district or State during their first teaching experiences. Informal and formal evaluations and other discussions with administrators and colleagues, structured mentoring and induction programs, and other localized contextual factors are crucial to how novice teachers in the study expressed the varying levels of preparedness, belonging, support, and motivation experienced within their first few years of teaching experience.

### Preparedness for Rural Living/Teaching and Motivation to Stay

Prior experiences within rural communities and schools impacted the novice teachers' self-efficacy, sense of belonging, and motivation to stay within their new roles. Participant Seven explained, "I suppose, I mean, I've, I'm from [a rural Midwestern state], so I don't think I would want to move elsewhere." Similarly, Participant Three shared, "I grew up in [a rural Midwestern state], so this is just a place I knew I wanted to be. I don't have an interest in being anywhere bigger." Participant Six took the explanation a step further, including the relationships built within the role as motivation to stay, stating,

> You know, I've never really thought about leaving the State because I grew up in [this rural Midwestern State], you know, born and raised here. I love the State and so I can't really imagine teaching anywhere else anyways, but the relationships

> I've made here are definitely the ones that make me, make me want to stay with coworkers.

**Sense of Belonging**

The sense of belonging developed as a result and was expressed by Participant Ten, who stated,

> I think with everything that's happened and all the parents coming to me, kids coming to me, it's really a positive reinforcement making me want to stay here because I know that I'm appreciated in the area that I'm at.

She then went on to say, "I think the number one factor influencing the decision to stay teaching in [rural Midwestern State] would be the social context. I really love the people here."

While some participants interviewed shared positive experiences that helped them develop a sense of belonging, others, such as Participant Seven, stated,

> I feel a lot of my coworkers, they grew up together almost they grew up in this community, so they have past relationships, and they know other members in the community. And, so, they understand this social context, and coming in, I feel like I'm naïve to that.

Participant Seven continued, "I don't know how people are supposed to act or behave." Again, without the intentional support of colleagues and administrators, participants experienced less sense of belonging and motivation to stay within their roles.

This siloed feeling was emphasized by Participant Two who explained,

> But also, with them all being pretty close, and they're all quite a bit older, have quite a bit more experience than I do in teaching. So, sometimes it feels like I don't really know where my place is yet, especially since I've only been there half a year and they all have established relationships, and I'm still kind of working on that.

Feeling a sense of belonging within a community significantly influenced one's experience, often bolstered by the impact of administrator and colleague support.

**Impact of Administrator and Colleague Support**

Participants who experienced intentional support from administrators and colleagues reflected upon and applied knowledge from previous rural experiences in their personal or preservice professional lives. Participation in robust mentoring and induction programs expressed a greater sense of belonging, preparedness for rural teaching and/or living, and motivation to stay teaching within the State. All 11 participants discussed the support they receive from their building or district leadership, with many highlighting the positive impact of their administrators' support on their self-efficacy. Participant Three referenced this by sharing,

> There are so many days that our superintendent/principal stops down after school, especially right as I was starting. And he would just check in once a week and some days we'd sit there after school for an hour and chat just about anything that I'm experiencing or going on and answering any questions. So that means a lot.

Building on the foundational support from administrators and colleagues, mentoring and induction programs further enhance this supportive framework, offering targeted guidance and development opportunities to new staff members.

**Impact of Mentoring and/or Induction Program**

In response to retention concerns, many school districts in the State have implemented mentoring or induction programs for their new teachers. Additionally, the State has implemented a statewide mentoring program to pair retired and/or veteran teachers with novice teachers within the State. According to the participants in this study, this had impacted the self-efficacy of those who had been paired with mentor teachers. Participant Eight felt strongly about the mentoring they received and shared,

> I would say a mentoring program. The most beneficial aspect to my first two beginning years of teaching was having a mentor there. In my first district, I had a district mentor and a building mentor, and both were extremely beneficial.

Participant Six echoed these feelings, sharing, "My mentor who left the district a couple of years ago, I still talked to her and so it's, it's still very awesome. It's awesome to have her because she knows the district." This participant went on to say,

> I was really lucky to be in the mentor program, in the [rural Midwestern state] teacher mentoring program, and my mentor was amazing. Like she was just a phenomenal teacher and like just the students really loved her and staff loved her and it was, it was so, and we had the same prep period and we were in the same building, and it was amazing for me just being around the hall and just vent or talk about like just anything, you know, student behavior and just, it was amazing just having her there. That was key.

While some participants shared the positive influence their mentoring or induction program had on their self-efficacy, others felt that the program wasn't as helpful as it could be. Participant Nine emphasized the need for proper pairing of mentors with novice teachers by sharing,

> Well, I know like new teacher mentoring is a thing the State has, but our district is still, I don't feel like it has, I guess the best, because the way, I don't know, my first year, my mentor was also a first year in her position. So, I was just like kind of a hot mess. I would go to her for questions. And she was like, I don't even know the answer. Like, I'll find the answer, but I don't know it.

This insight emphasizes the need for school leadership to intentionally pair mentor teachers and their mentees and ensure adequate training for the mentor teachers occurs before implementing the program. Transitioning from the impact of mentoring and/or induction programs, it's crucial to explore how contextual factors like teacher pay and affordable housing intersect with and influence the effectiveness of these initiatives.

**Local Contextual Factors**

Localized contextual factors, such as teacher pay, available, affordable, and adequate housing, and specific recruitment efforts experienced by novice teachers, were also expressed as factors playing a role in the novice teachers' experiences within their rural settings. When a lack of affordable or available housing exists, novice teachers have difficulty moving to rural areas to teach and live. If salaries do not allow for it or the school is in a rural, remote community, commuting to the district to teach may also not be an option. Participant 11 explained her situation regarding housing by contributing,

> Also for like, housing, here it is kind of limited, so I had a friend from [*a different university*] who is the, one of the music teachers here, and so he accepted a position. So, I kind of knew, like I had a built-in kind of roommate, friend, whatever.

In line with Boyd et al. (2003) and Monk (2007) regarding the proximity of novice teachers to their hometowns or college campuses, this study found that many novice teachers taught in areas close to or similar to their hometowns. Familiar with the Midwestern State's school districts and cultures from growing up there, many chose to continue their careers within the State. Some of these novice teachers were staying close to home or college towns, even if located in rural fringe areas, where support systems and daily living resources exist nearby. However, in some instances, novice teachers in the Midwestern State moved to rural, remote areas to teach and live, where access to necessities such as groceries, medical services, banking services, and other provisions was hours away. This, in addition to the social isolation from same-aged peers in these locales, profoundly affected novice teachers' sense of belonging and level of support, affecting their willingness to stay in these rural settings. Additionally, the level of support received from colleagues and administrators significantly impacted novice teachers' self-efficacy when encountering classroom management and discipline issues, difficult parent or student situations, and other challenges that arise throughout the school year. Table 1 displays the frequency of the predominant themes.

**Table 1**

| Predominant Themes | Frequency |
|---|---|
| Preparedness for Rural Teaching and/or Living | 11 |
| Sense of Belonging in the School and Community | 14 |
| Motivation to Stay in or Leave the Profession or State | 18 |
| Impact of Administrator Support on Teacher Self-efficacy | 17 |
| Impact of Colleague Support on Teacher Self-efficacy | 23 |
| Impact of Mentoring and/or Induction Program on Teacher Self-efficacy | 10 |
| Local Contextual Factors | 10 |

## Discussion of Implications for Rural Education and Practice

Working with teacher preparation programs to provide deeper and more frequent rural-based field experiences, involving opportunities for reflection and comparison to preservice teachers' personal experiences, would benefit novice teachers as they seek employment and their teaching experiences within rural areas (Quesenberry et al., 2018). These experiences would increase the degree of preparedness novice teachers immediately felt when entering teaching positions in the Midwestern State.

School leaders who are purposeful in intentional relationship building and establishing positive and productive school cultures would create the sense of belonging and levels of support novice teachers have expressed as a need (DeFeo & Tran, 2019; Le Cornu, 2013; Tracz et al., 2018). Additionally, principals who provided specific and effective instructional feedback to their staff based on information from formal evaluations and informal walk-throughs and based on school-wide goals and student needs developed high expectations among their staff (Brown & Wynn, 2007; Gamborg et al., 2018; Ingersoll, 2012; Ingersoll & Strong, 2011).

Implementing intentional recruitment efforts across the State, high school internships, and other grow-your-own programs would be helpful in building the teacher pipeline for rural, remote, and rural fringe areas (Painter et al., 2013). We were developing community-based pipeline apprenticeship-based programs like those referenced by Barley (2009), where community members who showed interest or paraprofessionals already staffing K-12 schools engaged in coursework and field experiences to earn certification. Once teachers are recruited, districts in rural areas will benefit from comprehensive onboarding or induction programs for all new teachers to their schools or buildings to move toward retaining these teachers. Novice teachers feel best supported by ongoing, intensive, and individualized support within their schools.

## Future Research

Additional research is necessary to determine specific challenges our novice teachers, especially those in rural areas, face in their roles. Intentionally clarifying with preservice and novice teachers what administrative and colleague support looks and sounds like to them may assist in creating more effective, robust, personalized induction, mentoring, and onboarding programs that will allow them to consider long-term employment in their current district.

Broad-scoped surveys were sent to novice teachers across the State and region to discover more specific information regarding their experiences and perceptions regarding preparedness for rural living and teaching, belonging in their school and community, leader and colleague support, State and district-level mentoring and induction programs, and recruitment efforts they experienced upon entering the profession and how these experiences and preparedness have impacted their first year of teaching would be beneficial to teacher preparation programs and school districts. Surveying novice teachers in the Midwestern States to learn more about the local contextual factors such as teacher pay and affordable, adequate housing accessibility that may influence their decision to continue teaching within the State would be beneficial in understanding the needs and desires of this group and how these factors play a role in recruitment and retention. Further qualitative studies with novice teachers in rural areas of Midwestern states will continually add to the knowledge base regarding these experiences and the best ways to support these teachers. Asking more specific questions regarding the themes that emerged from this study, specifically the intentional support received, the induction and mentoring programs provided, and the overall sense of belonging developed during the first few years within the role, will be beneficial to issues surrounding novice rural teacher support. Additional research regarding which recruitment and retention efforts have successfully recruited and retained teachers in these rural districts across Midwestern States may also help rural school districts make effective programmatic decisions regarding support for novice teachers.

## Conclusion

Novice teachers in this Midwestern State had various experiences and needs based on the challenges presented in their school districts and communities. These needs ranged from building adequate and appropriate relationships with those individuals within and outside the school community to not knowing what they do not know or who to turn to for help and support. These needs affected the novice teachers' self-efficacy to some degree, which impacted their overall experience. While most of the novice teachers interviewed shared their intentions to stay in the Midwestern State and the positive experiences they encountered, some novice teachers still expressed concern regarding the lack of administrative support they experienced, the limited induction or mentoring programs offered them, and the loneliness associated with being new and inexperienced

in a world of veteran and well-versed colleagues. These were issues principals could work to address by building intentional support within the school and community settings to assist novice teachers in becoming more comfortable within the community and help these individuals access needed resources for successful rural teaching and living.

If given the opportunity, principals could play a vital role in pairing preservice and novice teachers together to provide the opportunity for preservice and novice teachers to discuss challenges faced within the first few years of rural teaching and living, which may help preservice teachers understand the needs of rural communities and schools while providing novice teachers the opportunity to reflect on their experiences. Building principals can serve as more than a liaison between the wealth of knowledge and experience within their staff and the needed placements of the teacher education programs, where they can observe, interact with, and provide feedback to preservice teachers to provide an additional layer of support. Supporting preservice teachers and establishing a constructive relationship with these individuals benefits the preservice teacher by providing additional feedback on instructional strategies, communication with parents and colleagues, and classroom management strategies from an administrator's perspective. Principals must be more active in developing and cultivating professional relationships among their staff while providing opportunities for preservice and novice teachers to share experiences and ideas. They need to give feedback to these individuals and establish a school culture that encourages collaboration and builds trust.

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*Theory & Practice in Rural Education (TPRE)*
2024, Vol. 14, No. 1, Pp. 202
Copyright 2024 ISSN:2641-7170
https://doi.org/10.3776/tpre.2024.v14n1p202

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| Spring 2025 | January 15th | General topics |
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The Theory & Practice in Rural Education editors would like to invite authors to submit manuscripts for forthcoming issues. *Theory & Practice in Rural Education* is a peer-reviewed journal published electronically twice yearly, in spring and fall. We are predominantly interested in manuscripts related to promising and effective educational practices in rural schools, educator preparation for rural P-16 institutions, and issues related to distinct rural populations. We invite several types of articles and/or multimedia creations, including those with an international focus: practice-based, educational innovations, partnerships for education, research-based articles, review articles, and book reviews focusing on rural education. (Please see Author Guidelines on the website for additional information on submission.)

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