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## Examining the Relationship of Teacher and Peer Belonging to Rural Attachment and Community Aspirations Among Diverse Rural Youth

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## Research Article

# Examining the Relationship of Teacher and Peer Belonging to Rural Attachment and Community Aspirations Among Diverse Rural Youth

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*This study examines how race/ethnicity moderates the relationship of teacher and peer belonging in mathematics and science classrooms with rural attachment and aspirations (i.e., community and proximity aspirations) among rural secondary students. Data were collected from a larger rural teacher leadership study and include 6,616 rural student participants who were surveyed from 2015 to 2019. Our findings reveal that peer and teacher belonging is related to adolescents' rural attachment and both community and proximity aspirations differently across race/ethnicity. Also, while rural youth of color compared to White students tend to have lower levels of rural attachment and aspirations, results illustrate that Black students have higher rural community aspirations. The discussion includes additional findings, implications, limitations, and directions for future research.*

Understanding youth's rural attachment and aspirations is of growing importance due to continued outmigration from rural communities (e.g., Petrin et al., 2014), as outmigration often results in a loss of valuable skills and resources (Cushing, 1999; Mills & Hazarika, 2001). However, ambitious stayers, who among rural youth have the most attachment to their rural community and the greatest desire to support and stay in or return to it, have hope (Assouline et al., 2021; Petrin et al., 2014). Therefore, understanding rural youth's rural attachment and aspirations may provide avenues for promoting the growth and sustainability of rural communities.

Such rural youth may be deterred from staying in or returning to their rural community, however, because of poor economic and job prospects (Petrin et al., 2014). Outmigration raises more concerns because rural communities may lack qualified youth to fill local employment and workforce needs as they become available. For example, recent increases in manufacturing, distribution, and technological facilities in some rural areas are creating strong demand for science, technology, engineering, and mathematics (STEM) jobs (Campos Research Strategy, 2014; Lund et al., 2019). This demand could possibly offset outmigration, but such positions often end up being filled by individuals from outside the community. Thus, examining factors on how to curb outmigration warrants new investigation.

Overall, after rural youth complete their secondary and/or postsecondary education, the hope for rural sustainability is for them to remain in or return to their rural communities and use their education to revitalize their communities. We argue that this hope may be fostered by rural youth's peer and teacher classroom belonging, especially as rural youth often benefit from unique forms of social capital (e.g., social support; Byun et al., 2012) and close-knit relationships among peers and teachers (e.g., Hardré et al., 2008; Irvin et al., 2016; Starrett et al., 2021). In fact, rural attachment and strong community ties have been cited as factors influencing rural youth's migration decisions (Wolfe et al., 2019). Specifically, rural youth develop rural attachment due to their strong social ties with family and friends (Cox et al., 2014), and strong social ties with families and community members are a critical determinant of rural youth's migration intentions (e.g., Ulrich-Schad et al., 2013). These resources may foster youth's rural attachment and aspirations and affect rural youth's future rural residential choices.

### Rural Attachment and Aspirations

Rural attachment develops when individuals feel they belong to their rural community and the people within their community (Flora & Flora, 2004; Howley, 2006; Jorgensen & Stedman, 2001; Kyle et al., 2003; Williams & Patterson, 1999). Specifically, strong attachment to community relates to increased

rural residential aspirations among adolescents (McLaughlin et al., 2014; Petrin et al., 2014), and often the brightest rural youth have the most rural attachment (Petrin et al., 2014; Wang et al., 2021). These findings suggest that rural attachment and aspirations may be central to retaining rural youth in their rural communities.

Rural aspirations are youth's future desire to remain in or return to their rural communities (Howley, 2006; Howley et al., 1996; Petrin et al., 2014). Moreover, community-level factors are related to rural aspirations. In particular, the experience of growing up in a rural community can be characterized by connectedness and close-knit personal relationships, as well as the significance of self-sufficiency and rural identity that is rooted in locality and connection to the community (Burnell, 2003; Sherman & Sage, 2011). Further, rural students can have stronger connections to their communities compared to their urban peers (Petrin et al., 2011) because they often have close-knit relationships with the tight and socially interconnected community among family, schools, and religious institutions (Crockett et al., 2000). Similarly, in rural communities, strong student-teacher relationships are more unique and influential in students' learning as teachers foster their students' internal motivation, which supports youth's persistence in school (Hardré & Reeve, 2003; Irvin et al., 2016).

In our study, we operationalize rural aspirations as a desire for features of a rural community, including *community aspirations*—youth's desire to be a part of and support their community—and *proximity aspirations*—youth's desire to live close to friends and family. While fostering rural attachment and aspirations may be related to youth's likelihood of choosing their rural community as their future residence, rural research historically has focused on residential aspirations that specifically assess aspiring to live in a rural or nonrural community. Regardless, results from a study conducted in rural Oregon and Maine with a sample of predominantly White students revealed that youth who feel attached to their rural communities and have community and proximity aspirations are more likely to choose their rural communities as their future residence (Bernsen et al., 2022a). Moreover, an earlier study within rural Appalachia reveals that rural youth's proximity aspirations are related to their life satisfaction (Wilson & Peterson, 1988). Put differently, youth who aspire to live close to family and friends underscore close community ties as an essential source of their well-being.

While we know about the relationship between proximity aspirations and life satisfaction, our knowledge about the predictors of rural attachment and aspirations is limited. One problem is that existing studies have not focused on the relationship of peer and teacher classroom belonging to youth's rural attachment and aspirations, particularly among a diverse rural sample (i.e., African American, Hispanic, Native American, Pacific Islander, and Asian). This neglect is important because approximately 28% of rural students in the United States (US) are racial/ethnic minorities (Kebede et al., 2021). Furthermore, between 2000 to 2010 racial/ethnic minorities accounted for 83% of the population gain in rural America (Johnson, 2012). As racial/ethnic diversity in rural areas increases, new research is needed to understand minority rural students' school experiences, such as teacher and peer belonging, that may underlie their desire to remain in and support their rural community. Moreover, prior studies on rural attachment and aspirations have not focused on a large sample of rural youth from the southeastern US. Given that rural schools in this region are among the most racially/ethnically diverse (Showalter et al., 2019), this gap is important, as findings and implications may differ for students from different racial and ethnic backgrounds in various settings.

Prior research has also shed light on the role of gender in rural youth's educational and occupational aspirations (e.g., Bernsen et al., 2022b; Elder & Conger, 2000; Meece et al., 2014). What is not known, however, is whether the relationship between peer and teacher belonging to rural attachment and aspirations could be explained by gender. Given recent changes in rural communities and gendered shifts in employment in rural communities (e.g., Bernsen et al., 2022a), it is especially important to address the role of gender in examining rural youth's rural attachment and aspirations. In our study, we examined the role of gender in the pathways to rural attachment and aspirations as both rural female and male youth may have different values toward rural life (Elder et al., 1994).

Socioeconomic status (SES) is another factor that influences youth's future orientations (Seginer, 2009). In particular, we know that SES influences rural youth's decisions to remain in or leave their rural communities (Carr & Kefalas, 2009; Sowl et al., 2021). However, our knowledge is limited to whether the relationship between peer and teacher belonging and rural attachment and aspirations could be

explained by SES, so new research is needed to unpack the role of SES for rural youth.

Consequently, the purpose of our study is to examine how rural youth's classroom belonging to their peers and teachers relates to their rural attachment, community, and proximity aspirations, and whether these relationships are moderated by race/ethnicity. By understanding factors related to rural attachment and aspirations, schools and communities may be able to better curb outmigration. Specifically, peer and teacher belonging may interact differently with races/ethnicities to nurture rural attachment and aspirations. Additionally, our study examines rural attachment and aspirations of rural youth in the southeastern US. Our sample includes rural Title I schools with a large percentage of minority students (68%), thus making the rural context in our study unique.

### **Conceptual Framework**

Our study is guided by belongingness motivation theory (Baumeister & Leary, 1995), which indicates that the need to belong is fundamental and motivates individuals to maintain strong and enduring relationships with others and the sources that meet this need (Baumeister & Leary, 1995; Deci & Ryan, 2000). Every youth has a fundamental need to belong, and schools are one of the essential environments that can meet this need (e.g., Baumeister & Leary, 1995). Indeed, when youth have a strong sense of belonging, they have deeper connections with people and places (Allen, 2020). Developmentally, a strong sense of belonging is vital for youth as it influences their social identity and interpersonal relationships, ultimately positively influencing transitions into adulthood (Allen, 2020; O'Connor, 2010). Thus, we surmise that key people in the rural community, which includes peers and teachers, are well positioned to meet rural adolescents' need for belonging which in turn should increase the desire to remain close to the community and sources meeting that need.

In our study, we measured rural youth's peer and teacher classroom belonging based on Goodenow's (1993) definition of a sense of belonging, which is the degree to which students feel accepted, included, respected, and valued by their peers and teachers in classrooms. In particular, rural youth rated how they are included in classroom activities and respected by teachers. Additionally, they rated how their peers value their opinions and acknowledge that they can succeed in a classroom task. These items are in line

with belongingness motivation theory (Baumeister & Leary, 1995), as they measure how youth perceive acceptance, rejection, and inclusion by their peers or teachers in their classrooms.

In general, belonging is critical for all students' well-being, academic achievement, and performance (Allen et al., 2021). Nonetheless, Leary and colleagues (2006) developed the Need to Belong Scale (NTBS) to measure individual differences in the strength of the need to belong. Rather than focusing on the satisfaction of the belonging needs, NTBS focused on the strength or intensity of an individual's need to be accepted or rejected by others (Leary et al., 2006), suggesting heterogeneity in the need to belong across individuals. That is, individuals' need for social connections differs based on individual factors. For example, individuals with a strong need to belong seek others' acceptance to feel more secure (Lavigne et al., 2011). Prior studies show that the need to belong is especially powerful for ethnically/racially minoritized students' overall well-being (e.g., Branscombe et al., 1999). Indeed, a sense of belonging is also significant academically. When minority youth's need for belonging is not met, their academic performance is more likely to drop (Walton & Cohen, 2009). The importance of a sense of belonging expands to domains beyond academics (e.g., Allen et al., 2021), so fostering youth's need for belonging could yield broader benefits. Accordingly, we argue that it is important to consider how belonging may influence rural attachment and aspirations and how this relationship is moderated by race/ethnicity. This understanding may be critical to curb outmigration and help distressed rural economies to foster a local workforce.

### **The Current Study**

While the association between academic outcomes and the need to belong has been studied previously, the association between peer and teacher classroom belonging and rural attachment and aspirations has not been tested thoroughly, and it is unknown whether this relationship is moderated by race/ethnicity (i.e., African American, Hispanic, Native American, Pacific Islander, and Asian). Additionally, the role of peer and teacher classroom belonging has yet to be addressed in relation to rural aspirations in terms of community and proximity aspirations. That is, if perceived peer and teacher classroom belonging fosters rural youth's attachment and aspirations, it may have important implications for curbing outmigration and revitalizing rural

communities. This study bridges these gaps in the literature by addressing three research questions:

1. Do race/ethnicity and peer and teacher classroom belonging predict rural attachment and aspirations?
2. Does race/ethnicity moderate the role of peer and teacher classroom belonging on rural attachment and aspirations?
3. Are any significant relationships between independent variables (race/ethnicity, peer and teacher belonging) and rural attachment and aspirations explained by SES and gender?

## Methods

### Participants

Participants ( $N = 6,616$ ) were in middle ( $N = 3,446$ ) or high ( $N = 3,403$ ) school and enrolled in mathematics or science courses taught by one of the 20 teachers participating in a five-year rural teacher leadership professional development program (see Program Description for details). Participants were approximately evenly divided by gender (51.9% female) and represented a diverse racial/ethnic sample. Participants were primarily African American (43%), with 31.6% White, 6.2% Hispanic, 0.6% Asian, 0.4% Native American, 0.2% Pacific Islander, and 17.9% more than one race.

### Program Description

This study was part of a five-year rural teacher leadership development program within one state in the rural southeastern US. Twenty teachers participated in the program. The application process included submitting a cover letter, principal reference, transcript, and licensure test report, as well as participating in an interview. At the time of their applications, all teachers (3 males and 17 females; 12 White and 8 African American) had at least a master's degree and had an average of 16.89 years of teaching experience. Ten were mathematics and 10 were science teachers. All schools were designated as Title I, and at the time of their application, 11 teachers' schools were classified as rural fringe, seven as rural distant, one as rural remote, and one as town remote according to the National Center for Education Statistic's locale categories (National Center for Education Statistics, 2006). We included the town remote school as this school had similar demographics to the other schools (small, far from an urban area, and high poverty). Schools with a locale

of town remote have also been included in previous rural education research (Meece et al., 2014; Petrin et al., 2014).

In the first year of the program, teachers took online graduate courses (about their content area, project-based learning, and place-based education). Each summer, teachers participated in a two-week instructional leadership academy (ILA)—an intensive workshop physically situated/conducted in one of the rural communities of the participating teachers—that focused on increasing teachers' content and pedagogical knowledge. During the ILAs, teachers took different community field trips (e.g., nuclear power plant, local commercial farm) and utilized their learning from each trip in their mathematics and science classrooms. Each year, teachers organized community STEM nights in their schools and involved local workforce connections.

### Procedures

All participants completed the self-reported paper-based survey in their school, administered by trained research assistants. Participants were reminded that there were no right or wrong answers and that they could stop the survey at any point. They were also reminded that their responses were confidential. Each survey was assigned a unique identification number, and the data were entered into an online survey platform. The measures in the current study were collected as part of a larger study on rural teacher leadership, and the participants were surveyed from 2015 to 2019. This research was approved by the institutional review board at the authors' university.

### Measures

#### *Rural Attachment*

Rural attachment was measured by Phinney's (1992) Multigroup Ethnic Identity Measure (MEIM). The scale includes five items measuring the degree to which the student felt an attachment to the rural community (Likert-type: 1 = *not like me at all* to 6 = *a lot like me*; e.g., "I have a clear sense of my rural background and what it means for me";  $\alpha = .88$ ). Composite scores were calculated by averaging the items.

#### *Community and Proximity Aspirations*

This construct measured the degree of importance of 20 future life desires that were either

more modern/urban or rural in nature by asking, “In thinking about your future, how important is each of the following to you?”. Responses were on a six-point Likert scale from *not at all important* to *very important* (all points labeled). Some items were from the Education Longitudinal Study of 2002 Base Year Student Survey (Ingels et al., 2014; e.g., “getting a good education” and “having a good job”). Others were from Howley et al. (1996), which assessed the degree to which rural students aspired for modern or urban amenities (e.g., “having lots of money” and “getting away from this area”) vs. rustic or rural amenities (e.g., “living close to parents or relatives,” “being able to earn a living from the land”). An exploratory factor analysis was computed using robust maximum likelihood estimates and Geomin rotation. The results revealed a five-factor solution: *community aspirations* (e.g., “to help make my community a better place”;  $\alpha = .841$ , 3 items) *proximity aspirations* (e.g., “living in or close to my community where I grew up”;  $\alpha = .635$ , 2 items), *land aspirations* (e.g., “living near open land and natural landscapes/views”;  $\alpha = .605$ , 2 items), *material aspirations* (e.g., “having lots of money”;  $\alpha = .639$ , 4 items), and *occupational success aspirations* (e.g., “being successful in my line of work”;  $\alpha = .785$ , 5 items). For the current study land, material, and occupational success aspirations were not included in the analyses. Composite scores were calculated by averaging the items.

### ***Peer and Teacher Classroom Belonging***

The Psychological Sense of School Membership-Brief (Hagborg, 1998) scale was adapted and used to measure participants’ perceived teacher and peer belonging in their mathematics and science classrooms. The original wording that referred to “teachers” and “school” was altered to “teacher” and “classroom.” The measure included 11 items (Likert-type: 1 = *completely false* to 6 = *completely true*). An explanatory factor analysis was computed using robust maximum likelihood estimates and Geomin rotation. The results revealed a two-factor solution: *teacher classroom belonging* (e.g., “I am treated with as much respect as other students”;  $\alpha = .823$ , 6 items) and *peer classroom belonging* (e.g., “People in my class notice when I’m good at something”;  $\alpha = .796$ , 5 items). Composite scores were calculated by averaging the items.

### ***Student Characteristics***

We used students’ self-reported gender and race/ethnicity as student characteristics. Throughout the analyses, “other race/ethnicity” refers to Native American, Asian, and Pacific Islander students and students of more than one race/ethnicity.

### ***Parent Education***

We used parental education as a proxy for SES since education is often used as an indicator for SES as it affects later income and occupation (Mueller & Parcel, 1981). Parental education was reported based on the student’s responses to the highest level of education attained by either parent. The highest level of education completed by either of the student’s parents was used for the study, thus representing the maximum level of education in the household.

### **Analytical Strategies**

Data analysis was conducted in multiple steps. Before the main hypotheses were tested, preliminary analyses were conducted. Mplus version 8.4 was used for all analyses. First, descriptive statistics were computed. Next, we investigated the relationships of contextual and individual factors to participants’ rural attachment, community, and proximity aspirations. We used a robust maximum likelihood estimator and accounted for students nested in teachers which adjusted the standard errors for nesting and non-normality. We estimated three models with students nested in teachers on the three outcome variables (rural attachment, community, and proximity aspirations). Specifically, for Model 1, we entered student characteristics (e.g., race/ethnicity) and belonging variables (peer and teacher classroom belonging). Next, in Model 2, we included a series of interaction terms between students’ race/ethnicity with peer and teacher classroom belonging to examine whether the associations were moderated by race/ethnicity. Lastly, for Model 3, we added parent education and gender as control variables to determine whether the prior relationships, if any, were held after controlling for SES. In the analyses, we interpret both *p* values and effect sizes. Effect sizes (i.e., standardized slopes) were evaluated using Cohen’s (1988) criteria in which  $d < .20$  is a trivial effect,  $d \geq .20$  is a small effect,  $d \geq .50$  is a medium effect, and  $d \geq .80$  is a large effect. The missing data were below 2.5% and were handled by full information maximum likelihood (FIML) estimation.

Table 1  
Descriptive Statistics

	White		African American		Hispanic		Other		Total	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Dependent variables										
Rural attachment	3.84	1.38	3.58	1.30	3.38	1.24	3.54	1.41	3.64	1.35
Community aspiration	4.36	1.29	4.59	1.29	4.20	1.33	4.43	1.32	4.46	1.30
Proximity aspiration	4.02	1.29	3.65	1.37	4.01	1.24	3.69	1.4	3.80	13.36
Independent variables										
Peer belonging	4.01	1.14	4.24	1.10	4.10	1.09	3.97	1.17	4.11	1.36
Teacher belonging	4.49	1.16	4.72	1.09	4.49	1.07	4.54	1.17	4.58	1.13
Parent education	3.61	1.68	3.60	1.67	2.36	1.62	3.61	1.72	3.53	1.70
Gender	1.49	0.50	1.45	0.49	1.41	0.49	1.48	0.50	1.47	0.50
<i>N</i>	2,057		2,799		403		1,246		6,505	

### Results

Table 1 includes descriptive analyses by race/ethnicity. Overall, compared to African American, Hispanic, and other racial/ethnic students, White youth have higher rural attachment. In terms of community aspirations, African American rural youth have higher community aspirations compared to White, Hispanic, and other racial/ethnic students. Additionally, White and Hispanic youth have higher proximity aspirations compared to African American youth. While African American youth have higher rates of peer belonging compared to White and other racial/ethnic students, African American youth also have higher teacher belonging compared to White, Hispanic, and other racial/ethnic students. Further, Hispanic students' parental education was lower than White, African American, and other racial/ethnic students. In addition, Tables 2, 3, and 4 provide the estimated standardized coefficients for the three models predicting students' rural attachment, community, and proximity aspiration. In the next section, we provided detailed results for each research question (RQ).

#### **RQ1: Do race/ethnicity and peer and teacher classroom belonging predict rural attachment and aspirations?**

To examine the predictors of rural attachment and aspirations, in Model 1 we included student race/ethnicity and belonging variables for predicting rural attachment. Results suggested that students with higher peer ( $B = .239, d = .20, p < .001$ ) and teacher ( $B = .185, d = .19, p < .001$ ) classroom belonging were associated with higher rural attachment. In contrast, African American ( $B = -.357, d = .26, p <$

$.001$ ), Hispanic ( $B = -.482, d = .31, p < .001$ ), and other racial/ethnic ( $B = -.285, d = .24, p < .001$ ) students had lower rural attachment compared to White students. Effect sizes indicate small effects for race/ethnicity and the belonging variables on rural attachment.

Results for community aspiration indicated that African American students ( $B = .155, d = .05, p < .001$ ) displayed higher community aspirations compared to White students, whereas Hispanic students had lower community aspirations ( $B = -.186, d = .02, p = .047$ ) compared to White students. In addition, students with higher peer ( $B = .176, d = .11, p < .001$ ) and teacher ( $B = .149, d = .10, p < .001$ ) classroom belonging had higher community aspirations. Effect sizes indicate trivial effects for race/ethnicity and the belonging variables on community aspirations. Being of other racial/ethnic backgrounds was not significantly related to students' community aspirations.

For proximity aspirations, findings revealed that students with higher peer classroom belonging ( $B = .106, d = .06, p < .001$ ) had higher proximity aspirations, while African Americans ( $B = -.385, d = .08, p < .001$ ) and other racial/ethnic ( $B = -.296, d = .06, p < .001$ ) students were less likely to display proximity aspirations compared to White students. Effect sizes indicate trivial effects for race/ethnicity and the belonging variables on proximity aspirations. Hispanic ethnicity and teacher classroom belonging were not significantly related to students' proximity aspirations.



Table 2  
*Estimated Standardized Coefficients for Rural Attachment*

Variables	Model 1	Model 2	Model 3
	$\beta$ (SE)	$\beta$ (SE)	$\beta$ (SE)
African American (AA)	-0.130 (0.023)***	-0.084 (0.077)	-0.142 (0.097)
Hispanic	-0.086 (0.015)***	-0.137 (0.043)**	-0.085 (0.053)
Other	-0.082 (0.015)***	0.070 (0.092)	0.111 (0.118)
Peer Belonging	0.201 (0.015)***	0.245 (0.026)***	0.239 (0.031)***
Teacher Belonging	0.155 (0.012)***	0.142 (0.025)***	0.124 (0.033)***
AA * Teacher Belonging		0.060 (0.056)	0.069 (0.085)
AA * Peer Belonging		-0.114 (0.080)	-0.070 (0.109)
Hispanic * Teacher Belonging		0.094 (0.064)	0.132 (0.065)*
Hispanic * Peer Belonging		-0.043 (0.37)	-0.116 (0.048)**
Other * Teacher Belonging		-0.038 (0.070)	-0.137 (0.092)
Other * Peer Belonging		-0.122 (0.069)	-0.071 (0.091)
Male			0.085 (0.014)***
Parent Education			0.033 (0.013)**
$R^2$	0.113 (0.010)***	0.115 (0.009)**	0.115 (0.009)***

Note. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

Table 3  
*Estimated Standardized Coefficients for Community Aspirations*

Variables	Model 1	Model 2	Model 3
	$\beta$ (SE)	$\beta$ (SE)	$\beta$ (SE)
African American (AA)	0.059 (0.016)***	0.173 (0.053)**	0.144 (0.065)*
Hispanic	-0.034 (0.017)*	-0.074 (0.067)	-0.054 (0.088)
Other	0.020 (0.015)	0.074 (0.058)	0.058 (0.080)
Peer Belonging	0.154 (0.018)***	0.165 (0.031)***	0.169 (0.038)***
Teacher Belonging	0.130 (0.016)***	0.147 (0.032)***	0.121 (0.036)***
AA * Teacher Belonging		-0.049 (0.079)	-0.044 (0.091)
AA * Peer Belonging		-0.075 (0.080)	-0.040 (0.087)
Hispanic * Teacher Belonging		-0.013 (0.070)	0.007 (0.091)
Hispanic * Peer Belonging		0.054 (0.055)	0.025 (0.079)
Other * Teacher Belonging		-0.067 (0.083)	-0.059 (0.093)
Other * Peer Belonging		0.011 (0.083)	0.010 (0.115)
Male			0.003 (0.013)
Parent Education			0.005 (0.013)
$R^2$	0.074 (0.006)***	0.075 (0.007)***	0.069 (0.008)***

Note. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

Table 4  
*Estimated Standardized Coefficients for Proximity Aspirations*

Variables	Model 1	Model 2	Model 3
	$\beta$ (SE)	$\beta$ (SE)	$\beta$ (SE)
African American (AA)	-0.140 (0.021) ***	-0.019 (0.056)	0.018 (0.047)
Hispanic	0.000 (0.017)	-0.030 (0.058)	0.010 (0.074)
Other	-0.086 (0.019) ***	0.031 (0.089)	0.132 (0.120)
Peer Belonging	0.089 (0.019) ***	0.104 (0.034) **	0.090 (0.038) **
Teacher Belonging	0.034 (0.026)	0.058 (0.039)	0.085 (0.043) *
AA * Teacher Belonging		-0.076 (0.072)	-0.210 (0.079) **
AA * Peer Belonging		-0.056 (0.073)	0.031 (0.078)
Hispanic * Teacher Belonging		-0.003 (0.072)	-0.023 (0.074)
Hispanic * Peer Belonging		0.034 (0.057)	0.000 (0.063)
Other * Teacher Belonging		-0.084 (0.085)	-0.150 (0.095)
Other * Peer Belonging		-0.038 (0.068)	-0.085 (0.112)
Male			0.054(0.017) **
Parent Education			-0.003 (0.020)
$R^2$	0.027 (0.004) ***	0.029 (0.004) ***	0.033 (0.005) ***

Note. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

**RQ2: Does race/ethnicity moderate the role of peer and teacher classroom belonging on rural attachment and aspirations?**

To address the second research question, we included a set of interaction terms (Model 2) to examine if the relationships between peer and teacher classroom belonging and rural attachment and aspirations were moderated by race/ethnicity. Results revealed no significant interaction terms for rural attachment. Nonsignificant moderation result terms suggest that the effect of peer and teacher classroom belonging on rural attachment does not differ across different races/ethnicities. That is, being from a particular race/ethnicity does not influence the relationship between peer and teacher classroom belonging and rural attachment.

Further, when we included the interaction terms to examine how the relationship between peer classroom belonging, teacher classroom belonging, and community aspirations varied by students' race/ethnicity, we did not find any statistically significant results. Similarly, when we included the interaction terms to examine how the relationship between peer and teacher classroom belonging and proximity aspirations varied by students' race/ethnicity, we did not find any statistically significant results.

**RQ3: Are any significant relationships between independent variables (race/ethnicity, peer and teacher belonging) and rural attachment and aspirations explained by SES and gender?**

To address the third research question, we added parental education (i.e., SES) and gender as control variables to examine whether the relationships between student characteristics (i.e., race/ethnicity, peer belonging, and teacher belonging) and rural attachments and aspirations held after controlling for SES and gender (Model 3). For rural attachment, the results revealed that higher levels of classroom belonging to peers and teachers were still associated with higher rural attachment. However, race/ethnicity was no longer significant, suggesting tenuous relationships as noted by the small effect sizes in the first model. In addition, results revealed that being of Hispanic origin amplified the association between teacher classroom belonging and rural attachment ( $B = .168, d = .03, p = .039$ ); this moderation effect is also apparent in Figure 1. On the contrary, as illustrated in Figure 2, being of Hispanic origin dampened the association between peer classroom belonging and rural attachment ( $B = -.162, d = .03, p = .013$ ). However, effect sizes indicate trivial effects for the interaction of Hispanic origin and the belonging variables on rural attachment.

In terms of community aspirations, after accounting for parent education and gender, all prior significant relationships remained (i.e., having African American origin, peer and teacher belonging), except being of Hispanic origin was no longer associated with lower community aspirations. With regard to proximity aspirations, after adding parental education and gender as control variables, the prior associations with peer classroom belonging remained. Additionally, after controlling for SES and gender, higher perceived teacher classroom belonging ( $B = .103, d = .02, p = .047$ ) was associated with higher levels of proximity aspirations. However, for African American rural youth, perceived teacher classroom belonging ( $B = -.114, d = .03, p < .001$ ) was related to lower levels of proximity aspiration; this moderation effect is also evident in Figure 3. However, effect size indicates a trivial effect on the interaction between African American students and the belonging variables on proximity aspirations.

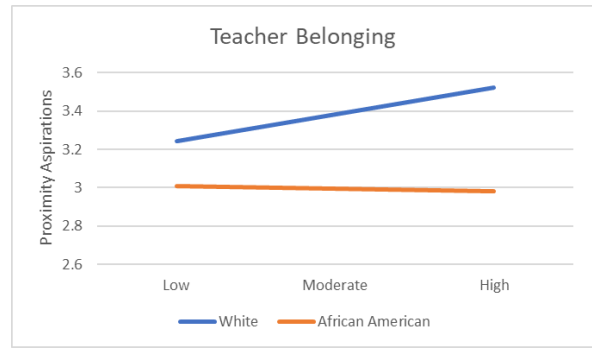


Figure 3. *The Moderation Effect of Race/Ethnicity Between Teacher Belonging and Proximity Aspirations*

Note. Lines represent male students' average parental education (3.53)

### Discussion

The primary focus of this study was to examine how race moderated the relationship of a sense of belonging in the classroom (with peers and teachers) to students' rural attachment and aspirations. Our findings make several important contributions to rural education research. Limited research has considered factors influencing rural youth's rural attachment, community, and proximity aspirations, especially among diverse rural youth from African American, Hispanic, and other racial/ethnic backgrounds. Furthermore, while most studies combine students of color into a single minority group, little work has separately examined youth from various racial/ethnic groups in rural settings (e.g., Irvin et al., 2016).

### The Relationship of Race/Ethnicity and Peer and Teacher Belonging on Rural Attachment and Aspirations

Prior studies examined rural youth's residential aspirations, but our findings are novel as they uniquely examined aspirations for features of the rural community. Findings from our study revealed that compared to White rural students, all racial/ethnic minority youth showed lower rural attachment. Conversely, African American rural youth had significantly higher community aspirations compared to White rural youth. Prior studies documented that African American youth place a high value on education because they see education as a tool for improved social and economic mobility (e.g., Anderson, 1988). Thus, it could be that African American youth place a similar value on their rural community because they feel responsible for

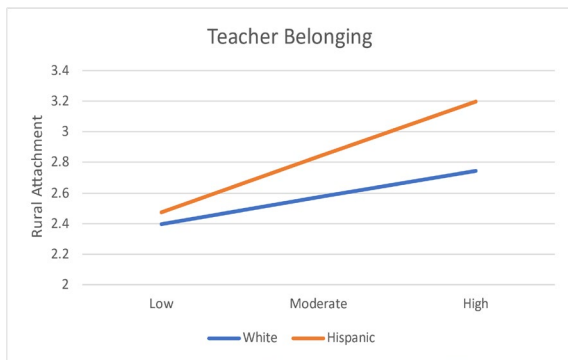


Figure 1: *The Moderation Effect of Race/Ethnicity Between Teacher Belonging and Rural Attachment*  
Note. Lines represent male students' average parental education (3.53).

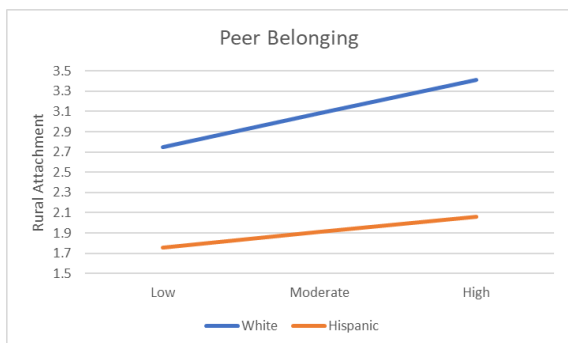


Figure 2: *The Moderation Effect of Race/Ethnicity Between Peer Belonging and Rural Attachment*  
Note. Lines represent male students' average parental education (3.53).

cultivating and being a part of them, especially where they represent the majority. Consequently, future studies should explore the relationship between African American rural youth and community aspirations in the southeastern US.

In contrast, compared to White rural youth, other racial/ethnic students had significantly lower rural proximity aspirations. Only 19% of our sample represented youth of other races/ethnicities. Thus, youth from other racial/ethnic groups may feel isolated in their communities and have limited opportunities for social and cultural interactions with people of similar identities. In particular, these youth may lack role models from their specific racial or ethnic group, as noted in our sample of teachers, who only represented White and African American races. Therefore, lack of representation may inhibit other racial/ethnic rural youth from imagining themselves succeeding in their rural communities.

Also compared to White rural youth, African American students had significantly lower rural proximity aspirations. Unlike youth from other racial/ethnic backgrounds, many of the rural communities included in this study were predominantly African American. Furthermore, 40% of the teachers in the study were African American, matching the rate of African American students in the sample. In our study, results showed higher community aspirations but lower proximity aspirations for African American youth compared to White youth. Research has demonstrated that rural youth are likely to experience conflict over their residential, educational, and occupational aspirations (i.e., whether to leave their communities to obtain better education or stay in proximity, e.g., Corbett 2009; Elder & Conger 2000; Hektner 1995). A similar conflict may be evident for rural African American youth. These rural youth may want to maintain connections to their rural communities, but they may also have educational and occupational aspirations that are not available in their communities. Future studies should aim to understand factors that influence the aspirations and goals of these students, as well as the challenges they face in achieving their aspirations, especially the role of gender and parent education. When parental education and gender were added, racial/ethnic minority students no longer had significantly lower rural attachment compared to White students.

The role of teachers in rural youth's views is well documented in the literature (e.g., Irvin et al., 2016; Starrett et al., 2021; Hardré et al., 2008). Our findings extend prior research by demonstrating that

rural educators appear to have an influential role in cultivating rural attachment and community aspirations among rural youth regardless of race/ethnicity. In our study, greater teacher classroom belonging was positively related to rural attachment and rural community aspirations for all youth.

Our results extend prior research by showing that classroom peers are likewise influential in fostering rural youth's community aspirations, which is important because it suggests that when rural youth feel more support and belonging from their peers in their classrooms, they are more likely to aspire to support their communities and be a part of their communities. This perspective may, in turn, influence youth's decision to choose their home communities as their future residences. The influence of peers can also play a role in shaping the attitudes and perceptions of rural youth. For example, exposure to peers who have positive views of their rural community can help counteract negative perceptions of rural life. Thus, future studies should further investigate the roles of peers in fostering rural attachment and community aspirations. However, only increases in peer classroom belonging (compared to teacher belonging) were associated with higher proximity aspirations. It could be that peers may have a particularly strong influence on rural youth's proximity aspirations. Consequently, future research should examine the extent to which peer networks influence proximity aspirations (e.g., whether positive relationships with a group of peers who share similar aspirations are more beneficial for proximity aspirations). Overall, these findings on teacher and peer classroom belonging highlight the importance of promoting positive relationships and a sense of belonging for all students, regardless of their racial/ethnic background, in an effort to foster their rural attachment and aspirations.

### **The Moderating Role of Race/Ethnicity with Peer and Teacher Belonging on Rural Attachment and Aspirations**

Our results extend the literature by revealing that peer and teacher classroom belonging manifest differently for rural youth and may lead to different effects for youth from White, African American, Hispanic, and other racial/ethnic backgrounds. In particular, findings from our study revealed the moderating role of race/ethnicity on the relationship between belonging and rural attachment and aspirations. In Model 3, being of Hispanic origin appears to strengthen the relationship between

teacher classroom belonging and rural attachment, but it weakens the relationship between peer classroom belonging and rural attachment. This finding suggests that fostering teacher classroom belonging among Hispanic youth in rural communities may be an effective approach to promoting their sense of rural attachment.

The importance of positive teacher support for youth's self-perception and academic performance in Hispanic students is well documented (e.g., Gillock & Reyes, 1996). Results from our study add to the current literature by demonstrating the role of teachers in Hispanic youth's rural attachment. Additionally, Faircloth and Hamm (2005) revealed peer involvement helps create belonging for Hispanic youth, although perceived discrimination hurts belonging. Our study suggests that Hispanic rural youth may need to perceive peer belonging specifically from students of a similar background (only 6% of the students in our sample were of Hispanic origin). For instance, we know from research that adolescents develop a sense of belonging by connecting and interacting with others with whom they share similar social identities (e.g., one's same racial group; Hirsch & Clark, 2019). It could be that these Hispanic students may feel excluded in their schools or communities even when peers promote academic belonging in the classroom. Consequently, new research is needed to understand the lived experiences of Hispanic youth in rural communities where they represent a small minority.

The moderation effect of race/ethnicity was also evident in proximity aspirations. In Model 3, being African American weakened the relationship between teacher belonging and proximity aspirations. This finding supports the work by Farmer et al. (2006). In their study, community members indicated a lack of financial resources to prepare youth for employment opportunities near the community as one of the barriers to successful outcomes for African American rural youth. Thus, while we observed a positive relationship between teacher belonging and proximity aspirations for White students, teacher belonging had no relationship with proximity aspirations for African American students. Therefore, academic inclusion from a teacher is not enough to promote proximity aspirations for African American rural youth. This finding coupled with higher community aspirations for African American students needs to be further studied. Research is needed to understand the lived experiences of African American youth in rural communities where they represent a large minority or the majority of residents.

## **Limitations and Future Research**

Although the current study provides several important insights into youth's rural attachment and aspirations, there are limitations that should be acknowledged. First, the nature of self-report assessment is one of the limitations as students' self-report may be biased. Second, the professional development program required rural teachers to have a master's degree and involved participant teachers in various activities within the community. Therefore, it may be that the skills and connections they developed over the project influenced associations of belongingness on rural attachment and aspirations. Third, our study was cross-sectional which provided important information in exploring predictors among the variables. However, cross-sectional studies do not provide evidence of causality. Consequently, future studies should examine the longitudinal relationships between peer and teacher classroom belonging with rural attachment and aspirations to identify possible causal factors. Specifically, future studies should examine if greater teacher and peer belonging over several school years leads to higher rural attachment and aspirations. Lastly, our participants were in Title I rural schools in one Southeastern state in the US with about 68% minority students. Although this could be treated as a strength (because limited research examined rural minority students' rural attachment and aspirations in the Southeast), other rural communities may be more or less diverse. Thus, our findings may not generalize to all rural students. Nonetheless, our study clearly highlights the importance of and need for considering diversity among rural youth in future research.

## **Implications**

Developmentally, it is important to foster youth's rural attachment. Adolescence is a transitional and exploratory phase, suggesting that if educators can foster youth's rural attachment, rural youth may be more likely to return to their rural communities. That is, the role of rural attachment may be one important factor when youth are considering their future residence. In general, prior research mostly focused on high-achieving students, their educational and occupational aspirations, and intentions to leave their rural communities (Carr & Kefalas 2009). However, our findings are promising in suggesting new directions to curb outmigration that are beginning to emerge in the literature. Specifically, Bernsen et al.'s (2022b) recent research

showed that rural youth who feel attached to their rural communities and have community and proximity aspirations are more likely to choose their rural communities as their future residence.

Overall, our study has both theoretical and practical implications for rural schools, teachers, school counselors, and policymakers. First, teacher classroom belonging can be nurtured through school policies and practices (Juvonen, 2007). For example, engaging in research-informed discussions with teachers about their powerful role in fostering belonging among minority youth can encourage teachers to more closely support their students, and develop and strengthen their relationships with their students in their classrooms. Second, schools should utilize well-validated interventions that increase peer and teacher classroom belonging especially for

minority youth. This approach could also examine and demonstrate how specific strategies are linked to improving youth's belonging to their peers and teachers, thereby fostering these students' rural attachment and aspirations.

Overall, our study reveals the complicated relationship between race/ethnicity and peer and teacher belonging on rural attachment and aspirations. Our study also reveals the conflicting relationship African American rural youth may have with community and proximity aspirations, as well as the opposing relationship peer and teacher belonging have on rural attachment for Hispanic youth. Our findings extend the extant literature on the role of belonging with rural attachment and aspirations and serve as a first step in unpacking the complex relationships across race/ethnicity.

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## Appendix A

\*Since the participant teachers were teaching either in mathematics or sciences classrooms, there were two versions of the survey: one mathematics and one science.

How much is each of the following statements like you? (Check one response on each line from not at all like me to a lot like me).

- I have a clear sense of my rural background and what it means to me.
- I am happy that I live in a rural community.
- I have a strong sense of belonging to my own rural community.
- I have a lot of pride in my rural background.
- I have a strong attachment to my rural background.

In thinking about your future, how important is each of the following to you? (Check one response on each line from not at all important to very important).

- Living close to parents and relatives.
- Having my friends nearby.
- Living in or close to the community where I grew up.
- Being able to support the community where I live now or one like it.
- To feel a part of a community.
- To help make my community a better place.

How true are the following statements about the math/science class you are in now? (Check one response on each line from completely false to completely true).

- I feel a real part of my math class.
- Other students in this class notice when I am good at something.
- Other students in this class take my opinions seriously.
- My teacher is interested in me.
- I feel comfortable going to my teacher if I have a problem.
- Other students in this class are friendly to me.
- I am included in lots of activities in my class.
- I am treated with as much respect as other students.
- My teacher respects me.
- Other students know I can do good work.
- Other students like the way I am.