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A nationally refereed journal about rural and small school issues sponsored by the National Rural Education Association
Rural Research Brief

A Longitudinal Study on the Effect of the Texas Behavior Support Initiative on Rural Middle School Students

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The purpose of this study was to analyze the effects of a school-wide positive behavior initiative designed to improve student behavior. Researchers analyzed the last 3 years (2005-2008) of student discipline referral data for grades 7 and 8. Implementation resulted in a significant reduction in the number of discipline referrals. Data revealed a decrease of 23% in the number (2239 vs. 1723) of discipline referrals from year one to year two and a decrease of 22% in the number (1723 vs. 1340) of discipline referrals from year two to year three. Results obtained from the analysis indicate that the TBSI was effective in improving student behavior in a rural middle school.

Key words: classroom management, student behavior, school-wide behavior initiative.

In 2001, the Texas Legislature passed Senate Bill 1196 in an effort to improve academic achievement and encourage a proactive approach to behavior management. This bill required training on a full continuum of positive behavioral interventions including an array of professionally accepted practices for all public school personnel. The development and implementation of the Texas Behavior Support Initiative (TBSI) was initiated in response to Senate Bill 1196. The goal was to enhance the capacity of schools to educate all students, especially students with challenging behaviors, by adopting a sustained, positive, preventative instructional approach to school-wide discipline and behavior management.

Management of student behavior is a major concern of teachers because of its importance in establishing a positive learning environment. Disruptive behavior within the school setting interferes with effective classroom instruction and deteriorates the overall educational climate of the school. Research indicates that higher rates of discipline referrals are associated with problematic behavioral climates in schools (Irwin, Tobin, Sprague, Sugai, & Vincent, 2004; Kant & March, 2004). No studies could be found that examined the Texas Behavior Support Initiative in relation to student behavior over a three-year period in a rural school district. As a result, the purpose of this study was to analyze the effects of a school-wide positive behavior initiative designed to improve student behavior in a rural middle school. The purpose of this study was to analyze the effects of a school-wide positive behavior initiative designed to improve student behavior in a rural middle school.

Method

A longitudinal quantitative study was conducted over a 3-year period from school year 2005-2007 to school year 2007-2008, using student discipline referral data to assess the effectiveness of a school-wide positive behavior support initiative on middle year behavior referrals.

Sample

The sample in this study was drawn from a larger project in which regional school district consultants partnered with area school districts in an effort to enhance the school’s capacity to implement evidence-based practices and formulate decisions at three levels: primary (school-wide), secondary (targeted efforts for selected groups of students and
targeted settings), and tertiary (individual student) to promote behavioral competence (Positive Behavior Interventions and Supports, 2009). The sample included all seventh and eighth grade students enrolled at the middle school during the data collection years (2005-2008). The average student enrollment over the 3-year period was 516 students, with a demographic diversity of 81% Hispanic, 14% Caucasian, 4% African American, 1% Asian Pacific, and 0.2% Native American. Sixty eight percent of the student population was classified as economically disadvantaged, 65% was identified as at-risk, and 12% received special education services.

**Procedures**

The project incorporated strategies designed to promote and sustain the use of evidence-based practices and data-driven problem solving. Successful strategies included: setting clear expectations, providing the students with choices, reinforcing desired behavior and providing immediate consequences for inappropriate behavior. Strategies and interventions were put into practice at every level to encourage positive behavior. The majority of the interventions were implemented at the primary (school-wide) level. These interventions included creating a set of school-wide rules, revising the master schedule to include an advisory period, reducing the passing period from five to four minutes, universal monitoring of hallways between classes, visual reminders of the school-wide rules, and increased communication via radios for the behavior support team. At the secondary level, the behavior support team concentrated their efforts on selected groups of students and targeted settings. Successful interventions at this level included daily administrative walk throughs for targeted settings, initiating a partnership with Communities in Schools, improving interactions between students and staff, building relationships, and collecting and utilizing discipline data to guide decision-making. Strategies and interventions at level three focused on the individual student. Interventions included hand scheduling of “frequent flyers” to avoid an accumulation of problem behaviors in a single classroom, lunch detention, intent to cite warning notifications, civil citations, re-integration conferences for students returning from a disciplinary alternative campus, and continued collection and analysis of data to drive the decision-making process.

**Data Collection**

Data were collected for 7th and 8th grade students who were enrolled during the 2005-2006 (year one), 2006-2007 (year two), and 2007-2008 (year three) school years. Discipline referral data were obtained from the district’s Student Plus Information System. Discipline referral data were analyzed using descriptive statistics such as totals, percentages, and means. Chi-square analysis was utilized to determine if there was a statistically significant decrease in offenses between years 1, 2 & 3. This resulted in three analyses (Y1 vs. Y2, Y1 vs. Y3, Y2 vs. Y3). The number of offenses from the previous year served as the expected frequencies for each chi-square analysis. The Bonferroni adjustment (α = 0.05) was utilized to protect against making a Type I error. This resulted in alpha being set at .017 for all statistical comparisons. The Statistical Program for Social Sciences (SPSS), version 16, was used to analyze the data.

**Results**

The research focused on specific offenses identified in the data as recurring or demonstrating a high frequency of incidents. These high frequency incidents were organized into three categories: classroom offenses, hallway offenses, and communication offenses.

**Classroom Offenses**

Classroom offenses included class disruption, disruptive behavior, disobedience, and leaving without permission. Class disruption is any action or event that disrupts the flow of instruction or causes others to be distracted from direct instruction, an assignment, or class work and includes such behaviors as uncontrolled laughing, loud talking, throwing objects and getting up. Disruptive behavior is typically difficult to define as each situation has to be evaluated in the context of the occurrence. Tardiness for example, may be disruptive but does not impede the teacher’s ability to sustain instruction. Other examples of disruptive behavior include sleeping in class and students sitting with their back to the room. The main difference between these types of offenses is the overt intent of the individual to interrupt and interfere with instruction. Any refusal to comply with a teacher’s directive constitutes disobedience. Walking out of class without the teacher’s permission or pass would result in an infraction of leaving without permission. From years one to three there were decreases in incidences in the following areas: Leaving without permission (203 to 64), disobedience (301 to 124), and disruptive behaviors (471 to 40). However, class disruption referrals increased from 51 in year one to 284 in year three. Two interventions put into place may have
been the causal factor in the increase reporting of class disruptions. First, the teachers were taught to recognize the difference between classroom management and student discipline. Second, the teachers were empowered to take control of their classroom. They were instructed to determine if the behavior in question constituted a class disruption or not. The administrators no longer made that determination. This resulted in an increase in the number of class disruption offenses (See Figure 1).

![Figure 1](image1.png)

**Figure 1.** The number of classroom offenses (i.e., leaving without permission, disobedient, disruptive behavior, and class disruption) from year one to year three.

**Communication Offenses**

Communication offenses included disrespect of authority, insubordination, and profanity. The data revealed a decrease in the number of incidents of disrespect of authority from 120 in year one to 62 in year three. The number of incidents of profanity decreased from 174 in year one to 106 in year three. However, there was an increase in insubordination referrals, 73 in year one compared to 87 in year three. In year three, insubordination incidents were actively reported and addressed, whereas in year one, these incidents were considered minor and were not reported consistently. This paradigm shift might explain the increase in the number of insubordination offenses (See Figure 2).

![Figure 2](image2.png)

**Figure 2.** The number of communication offenses (i.e., disrespect of authority, profanity, and insubordination) from year one to year three.
Figure 2. The number of communication offenses (i.e., profanity, insubordination, and disrespect of authority) from year one to year three.

Hallway Offenses

Hallway offenses included inappropriate behavior, fighting, skipping class, and tardiness (referred to as tardies). Incidences of all four categories decreased from year one to year three:

- Inappropriate behavior referrals from decreased from 110 in year one to 49 in year three. Skipping class dropped from 130 in year one to 55 in year three. However, tardy referrals decreased only slightly from 36 in year one to 34 in year three, as did referrals for fighting (41 in year one to 38 in year three). See Figure 3.

![Figure 3](image)

Figure 3. The number of hallway offenses (tardies, skipping class, fighting, and inappropriate behavior) from year one to year three.

Researchers analyzed 3 years (2005-2008) of student discipline referral data for grades 7 and 8 and examined what these results meant in terms of school-wide discipline and student behavior. Continuous progress monitoring of student behavior through office referral data helped to guide systemic reform efforts. Implementation resulted in a significant reduction in the number of discipline referrals. Data revealed a decrease of 23% in the total number (2239 vs. 1723) of discipline referrals from year one to year two and a decrease of 22% in the number (1723 vs. 1340) of discipline referrals from year two to year three. Results obtained from the analysis indicate that the implementing the Texas Behavior Support Initiative (TBSI) was effective in reducing the overall number of offenses in student behavior in a rural middle school (See Figure 4).

Results of the Chi-square analyses revealed statistically significant decreases in offenses. There was a significant $X^2(1)= 117.29$, $p < .017$ decrease in offenses from year one to year two (2239 vs. 1723). There was a significant $X^2(1)= 85.14$, $p < .017$ decrease in offenses from year two to year three (1723 vs. 1340). Obviously, this also resulted in a significant $X^2(1)= 358.40$, $p < .017$ decrease in offenses from year one to year three (2235 vs. 1340).

Strategies and interventions were put into practice at every level to encourage positive behavior. The majority of the interventions were implemented at the primary (school-wide) level. These interventions included creating a set of school-wide rules, revising the master schedule to include an advisory period, reducing the passing period from five to four minutes, universal monitoring of hallways between classes, visual reminders of the school-wide rules, and increased communication via radios for the behavior support team. At the secondary level, the behavior team concentrated their efforts on selected groups of students and targeted settings. Successful interventions at this level included daily administrative walk-throughs for targeted settings, initiating a partnership with Communities in Schools, improving interactions between students and staff, building relationships, and collecting and utilizing discipline data to guide decision-making.

Strategies and interventions at level three focused on the individual student. Interventions included hand scheduling of “frequent flyers” to...
avoid an accumulation of problem behaviors in a single classroom, lunch detention, intent to cite warning notifications, civil citations, reintegration conferences for students returning from a disciplinary alternative campus, and continued collection and analysis of data to drive decision-making process.

Figure 4. The total number of offenses prior to TBSI to year 1, year 2, and year 3 of study. A reduction of 53% was seen since the inception of the Texas Behavior Support Initiative.

Results of the data analysis prompted the researchers to investigate academic achievement as measured by the Texas Assessment of Knowledge and Skills (TAKS) in relation to the decrease in discipline referrals. Data from the Texas Assessment of Knowledge and Skills (TAKS) revealed that scores improved from prior to TBSI implementation when compared to year three of implementation. The sample included all 7th and 8th grade students who were continually enrolled at the middle school during each of the data collection years (2005-2008). Improvement in scores could be attributed in part to the decrease in discipline referrals (See Table 1).

Table 1
7th and 8th Grade State Assessment Data from 2005-2007

<table>
<thead>
<tr>
<th>Test</th>
<th>Prior TBSI</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sum of all grades tested.</td>
<td>2832</td>
<td>2239</td>
<td>1723</td>
<td>1340</td>
</tr>
<tr>
<td>Reading</td>
<td>69</td>
<td>68</td>
<td>79</td>
<td>82</td>
</tr>
<tr>
<td>Math</td>
<td>32</td>
<td>45</td>
<td>56</td>
<td>57</td>
</tr>
<tr>
<td>Writing</td>
<td>82</td>
<td>85</td>
<td>94</td>
<td>84</td>
</tr>
<tr>
<td>Social Studies</td>
<td>65</td>
<td>70</td>
<td>58</td>
<td>75</td>
</tr>
<tr>
<td>Science</td>
<td>*</td>
<td>66</td>
<td>41</td>
<td>49</td>
</tr>
</tbody>
</table>

*Note. All data are represented as a percentage. * No science assessment test was given in the year prior to TBSI.
Some common themes that data revealed were
1. Most referrals occurred in the first semester of school. The lack of a smooth transition from one campus to another may be the reason for the greater number of referrals generated in the first semester. Infractions of the rules occur when the students are learning the new rules;
2. Most referrals occurred on Tuesdays. Tuesday was the day of the week in which school attendance was the highest;
3. Sixty-nine percent of all referrals came from male students. There were more boys than girls in the sample population resulting in a greater number of referrals generated by the male population;
4. Fifty-three percent of all referrals came from 7th grade students. Seventh grade students are in transition from one campus to another;
5. Ninety percent of all referrals came from the classroom. Most infractions occur while they are learning the expectations of their new campus. That most referrals occur in a classroom is not surprising considering students spend most of the school day in this setting;
6. Eighty-five percent of all referrals were from Hispanic students. School demographics indicated that 81% of the student population was Hispanic. Therefore, the largest student population generated the most discipline referrals;
7. TAKS scores improved overall from prior to TBSI implementation to year three of implementation. Time previously spent correcting disruptive behavior was applied to direct instruction. This managed instruction resulted in an improvement in academic achievement. Implementation of these school-wide strategies and interventions have resulted in a reduction in the number of behavioral disruptions in both classroom and non-classroom settings such as hallways and cafeterias. Although academic achievement outcomes were not the primary focus of this study, the initial data suggests that there is a strong empirical connection between school-wide behavior support and academic achievement as measured by the Texas Assessment of Knowledge and Skills. Researchers compared the TAKS scores from the years prior to implementation of TBSI to year three, the state assessment data revealed an improvement in scores over a three year period (See Table 1). In conclusion, implementation of the Texas Behavior Support Initiative (TBSI) was an effective program in a rural middle school in reducing the number of offenses from Year 1 to Year 3. Senate Bill 1196 was successful in decreasing the number of referrals among seventh and eighth grade students in a rural school district. This type of program may perhaps be effective in other rural areas of the state, as well as other metropolitan and urban areas.

References


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Planning for the Future: An Investigation of Work-Bound Rural Youth

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The purpose of this study was to explore the postsecondary educational and occupational expectations of work-bound rural youth. Three groups of work-bound youth were identified (work-bound, work-bound with future educational plans, and work-bound but unsure/undecided about postsecondary education), and each group was compared to college-bound rural youth using results from a recent national investigation of the educational and occupational aspirations of rural youth. Results indicated that the majority of rural youth in this study planned to continue their education after high school (56%), followed by 34% who planned to work and further their education. Results of logistic regression analysis indicated that family characteristics and students’ schooling experiences were the strongest predictors of work-bound status. Work-bound youth were more likely to report greater family economic hardship, lower parental expectations for completing college, and more negative schooling experiences than college-bound rural youth.

Keywords: rural; adolescents; high school; work-bound; educational expectations; occupational expectations

Nearly one third of America’s youth attend schools in rural areas (Provasnick et al., 2007). Recent reports indicate that educational aspirations of rural youth are on the rise (Chenoweth & Galliher, 2004; Elder & Conger, 2000). In fact, a recent report by the U.S. Department of Education suggests that rural youth have experienced the greatest increase in college attendance compared to youth in urban and suburban areas (Synder & Dillow, 2010). Although increases in college attendance among rural youth are encouraging, nearly 40% of rural youth do not continue their education at either a two-year or four-year institution directly after high school (Synder & Dillow, 2010). Students who forgo college and enter the workforce, can face a number of challenges and limited opportunities including availability of fewer jobs, less job stability, depressed wages, and lower overall satisfaction with life (Halperin, 1998).

Review of the Literature

In the following review we address three areas that are important to understanding the experiences of rural work-bound youth. We begin by addressing the role of college attainment. Next, we briefly consider the general determinants of college attainment. Finally, we explore the literature on why some youth do not continue their education. We pay particular
attention to the unique contextual experiences that these youth face during the transition to adulthood.

The Role of College Attainment

The adolescent years are a critically important time in the transition to adulthood. Given the rapidly changing labor market, today’s adolescents cannot realistically depend on high-paying and stable employment if they decide to forgo college. Such concerns were first articulated in the William T. Grant Foundation’s (1988) report, The Forgotten Half, which raised concerns about conditions and opportunities for youth who do not attain postsecondary education. This report highlighted the fact that work-bound youth find fewer full-time jobs, experience longer periods of unemployment, and more often have to rely on part-time or “dead-end” jobs that provide few benefits and little security. This report, along with a follow-up report (Halperin, 1998), found that work-bound youth face a difficult transition from school to work because few institutional supports are available to help these youth develop the knowledge, skills, and abilities necessary to meet the demands of a more technologically sophisticated job market.

Such attention to the transitional needs of adolescents from school to work led to a number of legislative initiatives, such as the School to Work Opportunities Act of 1994, to improve the educational experiences of adolescents in an effort to prepare them for college and the world of work. In addition to legislative initiatives, organizations such as the American School Counselor Association (2005) have called on members to take steps to improve the career development needs of all students regardless of their postsecondary educational plans.

College Bound Youth

Numerous studies have shown that adolescents’ educational aspirations are a significant predictor of postsecondary educational enrollment and attainment (Eccles et al., 2003). In addition, those youth who leave high school with a clear sense of purpose and direction are more likely, with economic and social support, to make successful transitions to secondary education (Lapan, 2004). Although educational aspirations are a significant predictor of later educational attainment, no single factor determines adolescents’ educational aspirations and attainment; rather, a variety of factors influence adolescents’ aspirations and decisions about their future.

Adolescents’ decisions to continue their education are influenced by numerous factors including family background, demographic background, school resources, and students’ schooling experiences (see Deil-Amen & Turley, 2007 for a review). Students who come from families with higher socio-economic status (SES) and greater expectations for college attainment are more likely to aspire to, and attain postsecondary education (Bozick, 2007). In addition to SES, demographic disparities play a role in college attainment with minority youth being less likely to attain postsecondary education (Deil-Amen & Turley, 2007). Students’ schooling experiences and their perceptions of these schooling experiences also can positively impact their educational aspirations and attainment (Lapan, 2004). Studies suggest that school belonging, school valuing, and positive academic self-perception are all important factors that influence adolescents decision to continue in school and to pursue postsecondary education (Demi et al., 2010). Postsecondary education attainment is also associated with schooling experiences such as taking part in a rigorous curriculum, availability of advanced or A.P. courses, and opportunities to take part in comprehensive programs and services that promote career development (Lapan, 2004).

Work Bound Youth

Although there is increased attention on adolescents making the transition from school to work, little is known about the unique career development experiences and needs of work-bound rural youth (Rojewski, 1999). Understanding the unique experiences of these youth is important given that many rural youth experience contextual challenges that may limit their access to resources that support career development (Apostal & Bilden, 1991; Crockett, Shanahan, & Jackson-Newsum, 2000; Haller & Virkl, 1993). For example, rural youth typically experience some of the highest levels of poverty (Albrecht, Albrecht, & Albrecht, 2000; Lichter & Johnson, 2007). Many rural schools lack financial resources, which negatively impacts curriculum offerings, availability of school-to-work transition programs, availability of teachers with advanced degrees, and school counseling services because counselors have limited time and resources to provide career counseling (Gándara, Gutiérrez, & O’Hara, 2001; Joyce & Neumark, 2000; Morrisette, 2000). At the community level, many rural students lack access to adult role models who work in more technical, professional, and managerial positions because rural economies often are based on service, labor, or farming jobs (Crockett et al., 2000). Rural youth may have a more restricted view of occupational opportunities because effective role models provide one of the best sources of career information (Lapan, 2004).

A number of studies suggest that work-bound youth, compared to college-bound youth, typically
perform lower academically, have lower levels of SES, are more likely to be minorities, less likely to report having college role models, are more likely to aspire to taking on adult responsibilities sooner, and are more likely to share many of the characteristics of those students who are at risk for school failure or dropping out (Herr, 1995; Herr & Niles, 1997; Rojewski & Kim, 2003). Studies of work-bound rural youth report similar findings (Ali & McWhirter, 2006; Burnell, 2003; Rojewski, 1999). Work comparing rural work-bound youth to non-rural work-bound youth suggests that rural youth are more likely to be work-bound than non-rural youth (Rojewski, 1999). Interestingly, although there is a recognition that rural youth are often faced with the conflict of remaining in their local community or leaving to pursue postsecondary opportunities (see Hektner, 1995), this conflict tends to be more of an issue for rural youth wanting to attend college whereas rural work-bound youth do not differ from non-rural work-bound youth on residential aspirations (Rojewski, 1999).

**Purpose of the Study**

The purpose of this study was to report on findings from a recent national study of the educational and occupational aspirations of rural youth. As part of this study, rural students were asked about their future educational and occupational expectations. The goal of this study was to address the following research questions:

**Research Question 1.** What pathways do rural youth expect to follow as they transition to adulthood? Students’ educational and occupational expectation information will be used to determine what percent plan to: enter college directly after high school (*college-bound*), work full time with no postsecondary education plans (*work-bound*), work while attending school (*work/college-bound*), or work while being unsure about college (*work-bound-unsure*).

**Research Question 2.** What characteristics of the student, student’s family, school, and schooling experiences influence the pathway a student expects to follow?

This study contributes to the literature in three ways. First, multiple transition pathways will be considered. Typically, investigators dichotomize students into college-bound or work-bound. However, more students today are following non-traditional pathways into adulthood, with some going straight to college, some entering the workforce, while others undertake a combination of school and work (Eccles et al., 2003; Lapan, 2004). Second, this study provides more current information on rural work-bound youth from a national sample than previous studies that have relied on datasets from the late 1980s (Rojewski, 1999). Third, this study is unique in that it considers how multiple contextual factors influence students’ expectations.

**Methods**

The current study is part of a broader national investigation to examine students’ school adjustment and postsecondary aspirations in rural high schools across the United States. Youth in grades 9-12 were recruited from 73 schools, with 89% of the schools from rural urban-centric locale codes (41, 42, and 43), and 11% from small-town codes (31, 32, and 33). Thirty-six schools had 50% or more students who were eligible to receive free or reduced-price lunch and 15 schools had 50% or more students who were identified as ethnic minority.

**Participants**

The sample included students in grades 9 through 12 who provided information about their future educational and occupational expectations. The sample included 7,945 students (9th – 27.2%, 10th – 27.3%, 11th – 25.3%, 12th – 20.2%). Of this group, 52.6% were girls, and the sample self-reported ethnicity or racial background was: 68.4% White, 6.9% African American, 10.9% Hispanic/Latino(a), 3.8% Native American, and 10.0% multiracial. Students from other ethnic or racial backgrounds were excluded because they constituted less than 1% of the sample.

As agreed upon by the university internal review board (IRB), recruitment and consenting procedures followed participating districts’ local policies and administrative guidelines. In some school districts (36%), active consent procedures were used, and parental consent forms were sent home with students. In other districts (28%), waiver procedures were used, and consent forms were sent home to notify parents of the study. The remaining districts (34%) employed a combination of active and waiver consent procedures to increase student participation. There was no significant relation between school poverty (i.e., proportion of student’s eligible for free or reduced-price lunch) and consent procedures or rates of student participation. All participating students completed student assent forms.

**Data Collection**

Data collection followed a protocol that has been used for two decades in research on adolescents’ school adjustment in middle-school and high-school.
settings (Cairns et al., 1988) and consisted of gathering information on students via separate student and teacher instruments. The student instrument consisted of a paper and pencil questionnaire administered on-site by trained researchers. Student surveys were group-administered in a common space on the school campus (e.g., cafeteria), with students seated with no one immediately in front or beside them to ensure the confidentiality of responses. One member of the research team read the survey instructions aloud and paced the survey administration, while other team members provided mobile monitoring. For each participating student, first-period teachers were asked to complete a brief survey that contained the rating scale of school achievement examined in this study. In cases where teachers did not believe they could adequately complete the survey, a guidance counselor or administrator identified another teacher who knew the student well enough to complete the assessment. Teachers were paid to complete the survey, and students received a school-supply item such as a pencil. All data collection occurred at least three months into the school year when teachers and students had had ample time to become familiar with each other.

**Instrument**

The main instrument used in this study was a student survey. The survey was constructed based on an extensive review process. Most of the scales within the survey have been used in other investigations of rural youth and in national studies such as the Educational Longitudinal Study of 2002 and the National Educational Longitudinal Study of 1988. However, a number of scales used in this study were modified to assess factors unique to the rural context. Because these scales were adapted from original sources, the complete survey underwent an in-depth review. First, all items on the survey were reviewed by a panel of national experts, including individuals with expertise in rural education. Second, an additional review process was conducted by senior research scientists at the U.S. Department of Education’s Institute of Education Sciences. Finally, the survey was pilot-tested in a number of rural schools before it was used in the study schools.

**Measures**

The survey questions explored several areas.

**Family economic hardship.** Students completed three items on a five point scale (1 = “never” to 5 = “all of the time”) assessing constraints felt by adolescents relating to difficulty over paying bills and struggles with having enough money to buy items for the family. Items were adapted from multiple sources (i.e., Conger et al., 1999; Elder et al., 1995; Wadsworth & Compas, 2002). These items were similar to measures of financial hardship in antipoverty intervention research (Huston et al., 2001) and studies of rural families (e.g., Conger et al., 1999; Elder et al., 1995). An exploratory factor analysis (EFA) indicated that these items formed a single factor which accounted for 81% of the variance. A confirmatory factor analysis (CFA) yielded a RMSEA of .50, indicating that the model was not a good fit. However, the NFI and CFI were both acceptable with values of 1 each. Cronbach’s alpha was .88. The standardized estimates for item loadings ranged from .81 to .91. The composite score was obtained by computing the mean rating across items. Higher score indicated more hardship.

**Parents’ level of education.** Students were asked to report on the level of education of each parent (or guardian). Answer choices ranged from “less than high school” to “completed a Ph.D., M.D., or other advanced professional degree.” The parent/guardian with the highest level of education was used in the analysis. Responses of “don’t know” were recoded as missing. Parents’ level of education was transformed into the corresponding years of schooling (e.g., 11 = less than high school graduation; 22 = has a Ph.D., M.D., or other advanced degree) so that level of education could be treated as a continuous variable in analysis.

**Parent respect and identification.** Parent respect and identification was assessed by the extent to which students identified with and respected their parents. This measure was adapted from Elder et al. (1996) and concerns how much the adolescent wants to be like, has respect for, and enjoys time with their parents. Specifically, it consisted of three items with six-point scales of disagreement-agreement to the statements: “When I grow up, I’d like to be like my parent/guardian (Item 1).”; “I have a lot of respect for my parent/guardian (Item 2).”; and “I really enjoy spending time with my parent/guardian (Item 3).” Cronbach’s alpha was .76; Item factor loadings range from .72 (Item 1) to .90 (Item 3).

**Parents’ educational expectations.** Students were asked “how disappointed would your mother (female guardian)/father (male guardian) would be if you did not graduate from college” using a six point scale ranging from “not at all disappointed,” to “very disappointed.” Students reported on both parents. These values were summed into one continuous variable for analyses.
Student demographic characteristics. Students were asked to provide gender, ethnicity, and grade information as part of the survey. For the ethnicity question, students were given a list and told that they could mark all that apply. The following categories were used in the analysis: White, African American, Hispanic or Latino/Latina, Native American, and Multiracial.

Rural identity. Students completed five items to assess the extent of rural identity development. This measure was modified from Phinney’s (1992) Multigroup Ethnic Identity Measure (MEIM) with permission. The items were altered to determine a rural identity commitment rather than an ethnic identity commitment. Specifically, this measure consisted of five items with responses on six-point scales of not at all like me-a lot like me to the statements: “I have a clear sense of my rural background and what it means for me (Item 1).”; “I am happy that I live in a rural community (Item 2).”; “I have a strong sense of belonging to my own rural community (Item 3).”; “I have a lot of pride in my rural background (Item 4).”; “I feel a strong attachment towards my rural background (Item 5).” Cronbach’s alpha was .91; Item factor loadings range from .75 (Item 1) to .91 (Item 4).

Perceptions of local job opportunities. Participating students completed seven items on a six point scale (1 = “strongly disagree” to 6 = “strongly agree”) assessing their views on employment prospects and local economic conditions. These items were adapted from multiple sources (Conger, Conger, Matthews, & Elder, 1999; Elder, Eccles, Ardelt, & Lord, 1995) and included questions such as: “It is easy to get a good paying job around here,” and “There have been a lot of business failures in our area.” Results of an EFA indicated that these items formed two factors which accounted for 34.3% and 26.2% of the variance. The first factor was positive perceptions of the local economy and job opportunities while the second factor was negative perceptions of the local economy and occupational opportunities. A follow up confirmatory factor analysis (CFA) yielded a RMSEA of .07 and CFI of .95, indicating that the two-factor model was an appropriate fit. The positive perceptions of the local economy and job opportunities factor was used in the current analysis. A composite score was calculated by averaging students’ responses across the three items. Cronbach’s alpha for this factor was .69.

Adult residential plans. Students were asked to indicate where they want to live when they are 30 years old. Responses categories included: (a) same area or town as now, (b) another rural area or town in my state, (c) small city in my state, (d) large city in my state (e) small city in another state, (f) large city in another state, and (g) another country. Participants could also indicate they were unsure of their residential plans at age 30. For analysis purposes, data were collapsed into three categories: (a) home state; (b) another state; and (c) unsure.

School Characteristics. School level information from the National Center for Education Statistics (NCES) Common Core of Data was obtained on schools’ college proximity (distance to closest college/university in miles), percent of students receiving federally funded free/reduced lunch, and geographic locale codes (small town, rural distant/fringe, rural remote).

Curricular program. Students were asked to identify what type of high school curricular program they were enrolled in. They were asked to choose from six programs: general high school program, college prep/academic, vocational/technical/business, agricultural education, other specialized program, or alternative/stay-in-school/dropout prevention program. Students could also select “I don’t know.” For the current study, all students were dichotomized into two groups for analysis (college prep = 1; all other programs = 0).

Academic achievement. Teachers’ view of students’ academic achievement was assessed by asking teachers to indicate which “best describes this student’s grades in school this year?” Response options ranged from 8 = “Mostly A’s” to 1 = “Below D’s.” This variable was treated as a continuous variable in the analyses.

Postsecondary preparation. This variable assessed the extent to which adolescents prepare for their future after high school graduation. This variable was measured by averaging four items with four-point scales of never-more than five times to the statements: “Talked with a guidance counselor or other advisor about college? (Item 1)”; “Visited a college campus? (Item 2); “Searched for college courses or programs available by the internet? (Item 3)”; “Talked with your parents about how to pay for college? (Item 4)” Reliability statistics for one-factor model are .67; Item loadings for one-factor model range from .62 (Item 2) to .74 (Item 3).

Academic self-concept. Students were asked to rate how good they were in several subjects including math, science, English/language arts, social studies, and other classes on a seven point scale (1 = “not good
at all” to 7 = “very good”) (Jodl et al., 2001). These items were developed by Eccles and colleagues and have strong psychometric properties, including predictive validity (Eccles, 1983). An EFA demonstrated that these five items formed a single factor which accounted for 50% of the variance. A CFA was then undertaken and yielded a RMSEA of .1, suggesting that the model was not a good fit. However, the NFI and CFI both indicated good model fit (i.e., .95 and .96, respectively). The standardized estimates of item loadings ranged from .60 to .75, except for the item “How good are you in mathematics?” which had a lower loading of .38. Nonetheless, all items were retained to form the latent variable academic self-concept. Cronbach’s alpha was .73, which was similar to the .78 reported by Jodl et al. (2001). Items were coded such that a higher score indicated higher academic self-concept. The composite score was obtained by computing the mean rating across items.

School valuing. Twelve items on a six-point scale (1 = “strongly disagree” to 6 = “strongly agree”) were included to assess students’ value for school and whether they viewed it as a pathway for later opportunities in life. These items were adapted from previous measures created by Voelkl (1996), Lapan, Gysbers, and Petroski (2001), and Jodl et al. (2001), and studies using these items have demonstrated that they predict academic achievement and classroom engagement (Finn & Frone, 2004). An EFA indicated that these items formed two factors which accounted 39% and 14% of the variance, respectively. The first factor was labeled positive school value as the five-items that loaded on this factor referred to the positive value of school. For example, these items included “most of what I learn in school will be useful when I get a job,” “the kind of education I’m getting here will help me later on,” and “dropping out of school would be a huge mistake for me.” Cronbach’s alpha was .85. The second factor was labeled negative school value as these five items referred to participants’ negative views regarding the value of school. For example, these items included “many of the things we learn in class are useless” and “school is often a waste of time.” Cronbach’s alpha was .74. Two items loaded on a third component but did not form a reliable measure so these were dropped. A CFA was then indicated that the two-factor model provided a good fit as the NFI and CFI were .95 and .96, respectively, and the RMSEA of .08 suggested fit was acceptable. The current study used the positive school value factor; it accounted for a greater proportion of variance and yielded a higher internal consistency estimate. The standardized item loadings on this latent factor ranged from .65 to .85. The composite score was obtained by computing the mean rating across items.

Classification of work- and college-bound youth. Students were asked about their educational and occupational expectations and aspirations. Previous studies of work-bound rural youth have identified work status through actual labor status after high school (e.g., Rojewski, 1999); however, such information was not available for this investigation. As such, it was decided to use educational and occupational expectations rather than aspirations to classify students. Although it is recognized that what adolescents aspire to accomplish academically and occupationally may not translate into actual postsecondary enrollment and completion or occupational attainment, using the educational and occupational expectation information (i.e., what adolescents report they plan to do) may provide a more realistic assessment of intentions over aspirations (i.e., what adolescents would most like to do). Students were asked: Do you plan to continue your education after high school? Answer choices included yes, no, and unsure. Students were also asked: Do you plan to work right after high school because you do not plan to continue your education right away? Answer choices included yes, yes but undecided/unsure about the job, and no. Students were classified into one of four groups: work-bound (these students did not plan to continue their education and planned to work right after high school); college-bound (these students plan to continue their education and not work); work/college-bound (these students plan to continue their education and work); and work-bound-unsure (these students plan to work directly after high school but are unsure if they want to continue their education beyond high school).

Analytic Strategy

To answer the two research questions we employed two analytic strategies. First, descriptive information is provided to identify the percentage of rural youth who were classified into each of the four groups (Research Question 1). Second, multinomial logistic regression was undertaken to predict work- or college-bound membership based on individual, family, school, and schooling-experience variables (Research Question 2). Multinomial logistic regression is an appropriate analytic strategy when the dependent variable is categorical and the goal is to determine membership into a given group based on the influence of independent variables in the model (Tabachnick & Fidell, 2007). Multinomial logistic regression requires that each group be compared to a reference group. This is similar to ANOVA analysis in
which three or more groups must be compared pairwise because simultaneous comparison is not possible. Because the focus of this analysis was on rural work-bound youth, the college-bound group served as the reference group. The relative contribution of each independent variable in predicting group status was evaluated by interpretation of an odds ratio. A statistically significant odds ratio indicates that as a given independent variable increases one standard deviation unit, the odds increase (or decrease) that students are members of the target group relative to the reference group. An additional benefit of interpreting the odds ratio is that the ratio provides information on the magnitude of the independent variable’s relationship to group membership.

For the missing data for the explanatory variables with exceptions for gender and race/ethnicity, we employed a multiple imputation technique with the ice option in the Stata software package (Royston, 2004). We generated five data sets with five different sets of imputed values, and averaged the coefficients and standard errors from analyses across the five data sets using the mim option in Stata (Royston, 2004). To address the nested nature of the current data (i.e., students within sampled schools), we used the cluster option in Stata, which generates robust standard errors by downwardly adjusting for the inflated standard errors resulting from the violation of the independent errors assumption (Rogers, 1993).

Results

This section describes the findings with respect to research questions one and two.

Research Question 1

What pathways do rural youth expect to follow as they transition to adulthood?

Results indicated that the majority of students in this study were college-bound (n = 4448, 56.0%) whereas, approximately one third of the students (n = 2685, 33.8%) were work/college-bound. Few students were work-bound (n = 368, 4.6%) or work-bound-unsure (n = 442, 5.6%). Although work-bound students did not expect to continue their education, 20.2% aspired to continue their education (with the majority aspiring to attend or complete a two-year program at a vocational, technical, or community college). Overall, 9.7% of college-bound students aspired to attend or complete a two-year program, 37.9% aspired to complete a four-year degree, and 48.4% aspired to obtain an advanced degree. Some work/college-bound students (21.3%) aspired to attend or complete a two-year degree program, whereas the majority aspired to complete a four-year degree (40.8%) or an advanced degree (30.7%). As expected, many work-bound-unsure students were also unsure when asked how far they would like to go in school (37.1%), whereas 18% aspired to complete high school only, 29.2% aspired to attend or complete a two-year degree program, 12.7% aspired to complete a four-year degree, and 2.9% aspired to complete an advanced degree.

Research Question 2

What characteristics of the student, student’s family, school, and schooling experiences influence the pathway a student expects to follow?

Descriptive statistics for all predictor variables are presented in Table 1. Results of the multinomial logistic regression are presented in Table 2. Results indicated that several student, family, school, and schooling experiences were associated with work-bound status. All three work-bound groups were more likely to come from families that experience greater economic hardship and have lower expectations for their adolescent to complete college. In addition, work-bound students were more likely to report greater levels of respect and identification with parents. Although work-bound and work-bound-unsure students did not differ from college-bound students on parents’ level of education, work/college-bound students’ parents have slightly lower levels of education compared to college-bound students.

In general, girls were less likely to be in one of the three work-bound groups than boys. Regarding race/ethnicity, Hispanic/Latino students were twice as likely to be work-bound-unsure relative to college-bound students. Native American students were nearly three times as likely to be work-bound relative to college-bound students.
Table 1.  
*Descriptive Statistics For Work-Bound and College-Bound Students*

<table>
<thead>
<tr>
<th>Explanatory Variables</th>
<th>All</th>
<th>Work-bound</th>
<th>Work-bound-unsure</th>
<th>College-bound</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SE)</td>
<td>M (SE)</td>
<td>M (SE)</td>
<td>M (SE)</td>
</tr>
<tr>
<td><strong>Family Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family Economic Hardship</td>
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<td>2.04 0.06</td>
<td>1.88 0.02</td>
<td>2.03 0.05</td>
</tr>
<tr>
<td>Parents’ Level of Education</td>
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<td>12.91 0.14</td>
<td>13.39 0.05</td>
<td>13.08 0.13</td>
</tr>
<tr>
<td>Parent Respect and Identification</td>
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<td>4.05 0.07</td>
<td>4.27 0.02</td>
<td>4.02 0.06</td>
</tr>
<tr>
<td>Parent Expectation for College</td>
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<td>2.37 0.08</td>
<td>4.48 0.03</td>
<td>3.35 0.08</td>
</tr>
<tr>
<td><strong>Student Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>0.53 0.01</td>
<td>0.24 0.02</td>
<td>0.51 0.01</td>
<td>0.40 0.02</td>
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<tr>
<td>Race/Ethnicity</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
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<td>0.69 0.02</td>
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<td>0.57 0.02</td>
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<tr>
<td>African American</td>
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<td>0.03 0.01</td>
<td>0.08 0.01</td>
<td>0.07 0.01</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
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<td>0.07 0.01</td>
<td>0.12 0.01</td>
<td>0.21 0.02</td>
</tr>
<tr>
<td>Native American</td>
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<td>0.08 0.01</td>
<td>0.04 0.00</td>
<td>0.04 0.01</td>
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<tr>
<td>Multiracial</td>
<td>0.12 0.00</td>
<td>0.14 0.02</td>
<td>0.14 0.01</td>
<td>0.11 0.01</td>
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<tr>
<td>Grade Level</td>
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<td>2.26 0.02</td>
<td>2.18 0.05</td>
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<tr>
<td>Rural Identity</td>
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<td>Positive Perceptions of Local Job Opportunity</td>
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<td>3.08 0.06</td>
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<tr>
<td>Residential Aspirations</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home state</td>
<td>0.35 0.01</td>
<td>0.46 0.03</td>
<td>0.36 0.01</td>
<td>0.39 0.02</td>
</tr>
<tr>
<td>Another State</td>
<td>0.30 0.01</td>
<td>0.26 0.02</td>
<td>0.31 0.01</td>
<td>0.29 0.02</td>
</tr>
<tr>
<td>Have Not Thought or Decided</td>
<td>0.34 0.01</td>
<td>0.28 0.02</td>
<td>0.33 0.01</td>
<td>0.32 0.02</td>
</tr>
<tr>
<td><strong>School Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College Proximity</td>
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<td>39.81 1.53</td>
<td>36.52 0.58</td>
<td>36.11 1.30</td>
</tr>
<tr>
<td>Percent Free/Reduced Lunch</td>
<td>0.48 0.00</td>
<td>0.48 0.01</td>
<td>0.49 0.00</td>
<td>0.51 0.01</td>
</tr>
<tr>
<td>Rurality</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Small town</td>
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<td>0.23 0.02</td>
<td>0.19 0.01</td>
<td>0.23 0.02</td>
</tr>
<tr>
<td>Rural fringe/distant</td>
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<td>0.32 0.02</td>
<td>0.42 0.01</td>
<td>0.36 0.02</td>
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<tr>
<td>Rural remote</td>
<td>0.41 0.01</td>
<td>0.45 0.03</td>
<td>0.39 0.01</td>
<td>0.42 0.02</td>
</tr>
<tr>
<td>Schooling Experiences</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College Prep Program</td>
<td>0.18 0.00</td>
<td>0.03 0.01</td>
<td>0.13 0.01</td>
<td>0.02 0.01</td>
</tr>
<tr>
<td>Achievement</td>
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<td>4.77 0.10</td>
<td>5.92 0.03</td>
<td>5.00 0.08</td>
</tr>
<tr>
<td>Postsecondary Preparation</td>
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<td>1.56 0.03</td>
<td>2.04 0.01</td>
<td>1.74 0.03</td>
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<tr>
<td>Academic Self Concept</td>
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<td>4.11 0.07</td>
<td>4.91 0.02</td>
<td>4.23 0.06</td>
</tr>
<tr>
<td>School Valuing</td>
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<td>3.06 0.07</td>
<td>4.32 0.02</td>
<td>3.67 0.05</td>
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<tr>
<td><strong>N</strong></td>
<td>7943</td>
<td>368</td>
<td>2685</td>
<td>442</td>
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</table>
Table 2. 
*Odds Ratios from Multinomial Logistic Regression Predicting Work-bound Students*

<table>
<thead>
<tr>
<th>Explanatory Variables</th>
<th>Work-bound</th>
<th>Work/college-bound</th>
<th>Work-bound-unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Base category = College-bound</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Family Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family Economic Hardship</td>
<td>1.38 ***</td>
<td>1.15 ***</td>
<td>1.26 ***</td>
</tr>
<tr>
<td>Parents' Level of Education</td>
<td>1.00</td>
<td>0.98 *</td>
<td>1.00</td>
</tr>
<tr>
<td>Parent Respect and Identification</td>
<td>1.19 *</td>
<td>1.01</td>
<td>1.07</td>
</tr>
<tr>
<td>Parent Expectation for College</td>
<td>0.46 ***</td>
<td>0.84 ***</td>
<td>0.63 ***</td>
</tr>
<tr>
<td><strong>Student Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>0.42 ***</td>
<td>0.86 **</td>
<td>0.70 **</td>
</tr>
<tr>
<td>Race/Ethnicity (white omitted)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>0.67</td>
<td>1.22</td>
<td>1.34</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>0.79</td>
<td>1.22</td>
<td>2.12 ***</td>
</tr>
<tr>
<td>Native American</td>
<td>2.83 **</td>
<td>1.17</td>
<td>1.13</td>
</tr>
<tr>
<td>Multiracial</td>
<td>1.16</td>
<td>1.15</td>
<td>1.03</td>
</tr>
<tr>
<td>Grade Level</td>
<td>1.17 *</td>
<td>0.89 ***</td>
<td>0.90 *</td>
</tr>
<tr>
<td>Rural Identity</td>
<td>1.20 *</td>
<td>1.03</td>
<td>1.01</td>
</tr>
<tr>
<td>Positive Perceptions of Local Job Opportunity</td>
<td>1.07</td>
<td>1.06 *</td>
<td>1.20 ***</td>
</tr>
<tr>
<td>Residential Aspirations (home state omitted)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Another State</td>
<td>0.89</td>
<td>0.93</td>
<td>0.85</td>
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<tr>
<td>Have Not Thought or Decided</td>
<td>0.87</td>
<td>0.94</td>
<td>0.94</td>
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<td><strong>School Characteristics</strong></td>
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<td></td>
</tr>
<tr>
<td>College Proximity</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Percent Free/Reduced Lunch</td>
<td>1.95</td>
<td>1.24</td>
<td>2.60 **</td>
</tr>
<tr>
<td>Rurality (rural remote omitted)</td>
<td></td>
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<tr>
<td>Small town</td>
<td>1.21</td>
<td>1.09</td>
<td>1.17</td>
</tr>
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<td>Rural fringe/distant</td>
<td>0.79</td>
<td>1.21</td>
<td>0.95</td>
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<tr>
<td><strong>Schooling Experiences</strong></td>
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<td></td>
</tr>
<tr>
<td>College Prep Program</td>
<td>0.31 ***</td>
<td>0.71 ***</td>
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</tr>
<tr>
<td>Achievement</td>
<td>0.70 ***</td>
<td>0.89 ***</td>
<td>0.71 ***</td>
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<td>Postsecondary Preparation</td>
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<td>0.61 ***</td>
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<td>0.74 ***</td>
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<td>School Valuing</td>
<td>0.56 ***</td>
<td>1.01</td>
<td>0.77 ***</td>
</tr>
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<td><strong>Log likelihood</strong></td>
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<td></td>
</tr>
<tr>
<td>Pseudo (McFadden's) R²</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>7943</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*** p < .001, ** p < .01, * p < .05

Grade level was also a significant predictor of status. Students in the upper grades were more likely to be work-bound, but less likely to be work/college-bound or work-bound-unsure relative to college-bound students. Students who had higher levels of rural identity were more likely to be work-bound relative to college-bound students. Finally, students who had more positive perceptions of the local economy were more likely to be work/college-bound and work-bound-unsure. Interestingly, after controlling for all
other variables in the model, residential aspirations did not predict status.

The only school characteristic variable that predicted work-bound status was percent of student body receiving free/reduced lunch. Work-bound-unsure students were more likely to attend schools with greater levels of school poverty. Although school-level variables did not predict status, all schooling experience variables were significant predictors of status. Students who were in a college preparation program, had higher levels of achievement, had taken part in postsecondary preparation activities, and had higher levels of academic self-concept were less likely to be members of any work-bound group. In addition, students with higher school valuing were less likely to be work-bound or work-bound-unsure.

Discussion

The focus of this investigation was on understanding which career pathways rural youth planned to take as they transition to adulthood. Results indicated that most rural youth in this sample (56%) planned to continue their education after high school. In addition, of those who planned to continue their education, nearly half aspired to obtain an advanced degree. These results suggest those rural youth who planned to attend college had high aspirations for their futures. These findings are consistent with other studies that suggest today’s youth have some of the highest aspirations of any generation (Reynolds, Stewart, Macdonald, & Sischo, 2006). However, nearly half of the students in this study planned to enter the workforce after high school with the majority planning to work while continuing their education. Finally, a small percentage of students (4.6%) planned to work after school with no plans to continue their education (work-bound) while 5.6% of students planned to work, but were unsure of whether they would continue their education (work-bound-unsure).

Although it is unlikely that all of the college-bound students in this study will enroll in or complete postsecondary education, it is encouraging nonetheless to see so many rural youth expecting to continue their education. For those students expecting to work while going to school, the literature suggests that such an approach can be problematic (Bozick, 2007; Bozick & DeLuca, 2005). Students who delay furthering their education after high school are less likely to complete a bachelor’s degree even after controlling for lower family SES and poor high school performance (Bozick & DeLuca, 2005). In addition, students who delay continuing their education typically do so because of limited family income or poor academic preparation. Students from low-income families often must work to pay for school-related expenses. For these individuals, work is often necessary to make postsecondary education possible, but having to work can reduce the likelihood that one will complete a degree program (Bozick, 2007).

A second focus of this investigation was to examine relations of individual, family, school, and schooling experiences to educational and occupational plans after high school. This analysis provides a picture of what characteristics typify those students who plan to go on to college and those who plan to work after high school. Results of the logistic regression indicated that family economic hardship and parents’ expectation for college were two of the strongest predictors of whether a student was college-bound or work-bound. This finding is consistent with other studies of rural work-bound youth (Rojewski, 1999) and suggests the importance of the family context in rural youths’ future plans. Although these findings are informative, two other findings are particularly noteworthy and in need of further exploration. The first is the finding that all three work-bound groups did not differ significantly from college-bound youth on residential aspirations after controlling for all other variables in the model. On average, about one third of rural youth in this study wanted to remain in their home state after high school. This finding suggests that while college-bound youth may be more likely to leave their community to further their education, work-bound youth (regardless of future educational expectations) may also feel pressure to leave their home communities in order to find work or further their education.

Results indicated that the three work-bound groups differed from college-bound youth on almost every schooling experience. Work-bound students (regardless of future educational expectations) were more likely to be in the general or vocational program, had lower levels of achievement, took part in fewer postsecondary preparation activities, and had lower academic self-concept. In addition, work-bound and work-bound-unsure students had lower levels of school valuing. This finding suggests that rural schools play a key role in shaping the educational and occupational aspirations of rural youth regardless of students’ background experiences. This finding is important given that schooling experiences are malleable and school personnel can play an important role in preparing rural youth for their futures.
Limitations and Future Directions

The results of this study provide a number of contributions to our knowledge of work-bound rural youth. However, these results must be interpreted in light of a number of limitations. Perhaps the most important limitation is that the design of the study was cross-sectional, with data being collected at a single point in time. For this reason it was necessary to derive work-bound groups based on rural students’ self-reported educational and occupational expectations. We agree with others who suggest that classifying students based on actual labor-force status may provide a more valid indicator of work-bound status (e.g., Rojewski, 1999; Rojewski & Kim, 2003). However, without access to this information, we relied on students self-reported expectations about their futures. A second limitation of this study is that only a few community characteristics of the study schools were examined.

The limitations of the study proscribe a number of possible directions for additional research. Future research should follow rural students longitudinally to better understand the degree to which they achieve their educational and occupational expectations and aspirations. More importantly, future studies should focus on the various pathways that rural youth take to enact their goals because there is greater variability in the way adolescents arrive at similar positions in adulthood (Eccles et al., 2003; Elder, 1999; Elder & Conger, 2000). Future research should also consider whether factors considered in this study are moderated by diverse contextual factors found in rural communities. A number of rural education investigators argue that rural communities can be quite heterogeneous on a number of important factors (Arnold et al., 2007; Brown & Schafft, 2011; Coladarci, 2007). We agree that rural communities are diverse and as such require methods to capture and appreciate such diversity. However, few studies consider the rural context and even fewer studies employ methods that provide more qualitative and context-rich information about adolescents making decisions about the world of work while growing up in a rural community (e.g., Burnell, 2003).

Conclusion

The goal of this study was to better understand the transition pathways of a more recent cohort of rural youth. Our results indicate that over half of the students in this study plan to attend college instead of entering the workforce. In addition, one third of the students plan to work and attend college while only a small percent plan to work without furthering their education. Although these numbers are encouraging, our analysis also reveals that those youth who plan to work after high school (regardless of educational expectations) may face a number of obstacles in attaining postsecondary education because of family economic hardship, low parent support for postsecondary education, and fewer positive schooling experiences. Although we did not address why the youth in our study plan to work, the literature suggests that many of these youth do so in order to pay for school or school related expenses (Bozick, 2007). While it may be unrealistic for rural educators to discourage students from working while going to school, rural educators are in a unique position to help students consider options that may limit the negative impact that work can have on college attainment. One possibility would be to help rural youth identify and apply for grants, scholarships, and/or loans to help reduce the number of hours rural youth must work while attending college. A second possibility would be for school personnel, particularly school counselors, to help rural youth identify more enriching job opportunities that promote career development and are aligned with students’ academic interests while discouraging work in “dead end” jobs that provide few other benefits beyond a paycheck.

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### Acknowledgements:

This research was supported by a grant from the U.S. Department of Education’s Institute of Education Sciences (R305A04056) awarded to the NRCRES at the University of North Carolina-Chapel Hill. The views expressed in this article are those of the authors and do not necessarily reflect those of the granting agency.
Increasing College-Going Rate, Parent Involvement, and Community Participation in Rural Communities

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This study examined the perceptions of leaders of grant-supported projects aimed at increasing the college-going rate of high school students in rural Appalachian counties in Mississippi to determine which factors they felt most influenced the college-going rate, parental participation in school activities, and community participation. Analysis of the leaders’ responses to questions related to these items showed that college visits and ACT preparation workshops were perceived as having the greatest impact on increasing the college-going rate at the schools. No one factor was perceived as having the least impact on increasing the college-going rate at the schools. Factors influencing parental and community participation included events and workshops for parents, especially those which involved community members as mentors.

Keywords: College attendance; high school students; family environment; academic aspiration; rural education; parental participation; community participation.

A number of influences have been identified as playing a role in rural students’ decisions to attend college. The student’s family, including their education levels and their support for the student to attend college, seem to play the strongest role. Student and family financial resources and information about obtaining financial aid also influence a student’s decision. In addition, the student’s experiences in high school, including curriculum, and the student’s perceptions of his or her ability to succeed in college and to benefit from higher education play a role. As a result, a number of public and private programs have been developed to increase the number of rural students choosing to attend college. Strategies have varied, and some of the most beneficial have been shown to include relationships with peers and mentors who encourage the student to attend college, providing the parents and student with information about the requirements for attending college, and providing the parents and student with information about and assistance with completing admissions and financial aid forms (The National Center for Education Evaluation, 2009).

Literature Review

Numerous factors influence students’ decisions to attend college, but the influence of family is particularly strong. According to the National Postsecondary Education Cooperative (2007), “For traditional-aged students, across ethnic and racial categories and regardless of SES, parents play the strongest role in the college choice and decision-making processes” (p. 39). Rural youth are no exception. In a study of youth from a rural Appalachian area of North Carolina, findings indicated that both parent and community education levels impacted the youths’ college aspirations. More youth from communities and families with adults who had at least a two-year degree indicated that they had set a goal of getting a college degree (Brown, Copeland, Costello, Erkanli, & Worthman, 2009). Research on high school students from a rural Appalachian area of West Virginia demonstrated a relationship between plans to attend college and (a) having parents and extended family members who had attended college and (b) father’s who were employed in a professional occupation (Chenoweth & Galliher, 2004). In addition, parental support for attending college plays a role in rural students’ decisions to attend college. Ali and Saunders (2006) found that rural Appalachian high school students were more likely to expect to attend college if they felt they had parental support.

Having financial resources and information about how to obtain financial assistance also plays a role in students’ decisions to attend college. In a study of rural West Virginia high school seniors, students reported various problems related to making decisions about attending college. The most commonly cited problem related to not having financial resources, followed by not having information about college and not having information about financial aid (Chenoweth & Galliher, 2004). Across the United States, Grodsky and Jones (2007) found that parents who have low socioeconomic status and minority parents are “less likely to provide estimates of college tuition and, when they provide estimates, tend to make larger errors” (p. 745).
Other influences include students’ experiences in high school, including the curriculum, as well as their perceptions of their ability to succeed in college and the benefit of attending college. In a study of high school students from a rural Appalachian area, Chenoweth and Galliher (2004) highlighted several factors that influence college attendance decisions. Planning to attend college was related to students’ “(a) ultimate educational goals, (b) high school curriculum, (c) perceptions of preparedness, and (d) perceived intelligence” (p. 5) as was “comfort in the school setting” (p. 10). Attewell and Domina (2008) found that students with a lower socioeconomic status tend to choose a less demanding curriculum and that taking a more demanding curriculum affects the likelihood of college entry and completion. Also, Hardré, Sullivan, and Crowson (2009) found that rural high school students’ perceptions of the value and benefit of the knowledge and skills taught and the importance and usefulness of the material delivered were predictors of their plans to attend postsecondary education. The students were more likely to plan to attend postsecondary education if they “felt competent and believed they could learn and develop skills in a school subject” (p. 13).

However, more rural youth are planning to attend college. A study of rural Pennsylvania high school seniors (Legutko, 2008) that compared the postsecondary plans of students in 1995 and 2005 indicated more students were planning to attend college in 2005, while the numbers of students who did not plan post-secondary education and who were unsure of their plans decreased. Also, more students whose parents had no postsecondary education were planning to attend college. Finally, more lower-middle class students were planning to attend college (Legutko, 2008).

Numerous strategies may be used to increase the college-going rate among students. Research shows that relationships with adults and other students who will support, guide, and positively influence students in their efforts to attend college may increase the college going rate of students (The National Center for Education Evaluation, 2009). The National Center for Education Evaluation recommends that to increase college access, schools should “surround students with adults and peers who build and support their college-going aspirations” (p. 6). In addition, the American Youth Policy Forum (Hooker & Brand, 2009) found that mentoring and other relationships was one of the most cited elements for contributing to students’ attendance and success in college.

Providing students and parents with information about the academic requirements of college and the steps necessary for college entrance are important. In addition, providing assistance with the process of applying for college and obtaining financial aid is beneficial. According to the National Center for Education Evaluation (2009), the two key issues related to increasing the number of students attending college are (a) ensuring students are academically prepared and (b) guiding students to take the appropriate steps for college entrance. Additionally, they recommend that schools endeavor to make families more financially aware and provide help for students in the process of applying for financial aid.

In a study conducted with 9th and 11th grade students in five states, Bell, Rowan-Kenyon, & Perna (2009) found that generally students lacked knowledge about college, especially about financial aid. Students mostly obtained information about college from their families, the Internet, and the school and expressed a need for personal and active methods of obtaining information at the school. Although the 11th grade students had a greater awareness of college and obtained information from formal sources such as the school, in general, students received little information prior to the senior year. Students in early intervention programs knew more about financial aid. The degree of their awareness was influenced by their socioeconomic status. Bell et al. (2009) noted a “lack of consistent mechanisms in most schools to channel information to students about the breadth of available educational opportunities available and the availability of financial aid and how to access it” (p. 677).

Providing assistance in completing application forms is beneficial. The National Center for Education Evaluation (2009) recommended that schools “engage and assist students in completing critical steps for college entry” in order to increase college access (p. 6). The federally supported Talent Search Program provides assistance in the completion of college and financial aid applications and college visits. Participants in the program were more likely to enroll in postsecondary education and to apply for financial aid (Constantine, Seftor, Martin, Silva, & Myers, 2006).

Plank and Jordan (2001) found that students who received more information and guidance were more likely to enroll in 4-year postsecondary educational institutions full-time as opposed to 2-year institutions full-time, 2-year institutions part-time, or not enroll. While communication among students, parents, and school personnel was important in the college-going decision-making process, assistance in applying for financial aid and admission, and in preparing for and taking the SAT/ACT had even greater effects. Barriers to students with lower socioeconomic status are less when information, guidance, and actions were included (Plank & Jordan, 2001). Finally, rigorous curriculum that prepares students for
college-level work in conjunction with support services and assessment of progress, are also important components in college-going decisions and future success at the post-secondary level (The National Center for Education Evaluation, 2009). Schools should “offer courses and curricula that prepare students for college-level work and ensure that students understand what constitutes a college-ready curriculum by 9th grade” (National Center for Education Evaluation, 2009, p.6). Students must be aware of the degree to which they are prepared for the rigors of college; it is the school’s responsibility to ensure that any deficiencies are identified and addressed. The American Youth Policy Forum (Hooker & Brand, 2009) found that one of the most often cited elements contributing to students attending and succeeding in college was “Rigor and Academic Support” (p. vii), which referred to curriculum, instruction, and other academic services.

**Educational Attainment in Rural Appalachia**

Residents in rural Appalachia have lower levels of educational attainment than residents in other areas of the United States. While the college-going rate of high school graduates nationwide is above 60 percent, the Appalachian Regional Commission estimates the rate is between 35 and 55 percent in Appalachia (Schwartz, 2004). And, while 27.5 percent of the United States population ages 25 and over have attained a bachelor’s degree or higher, only 20.4 percent of the population in the Appalachian region has done so. In addition, only 15.8 percent of the population ages 25 and over in Appalachian Mississippi has attained a bachelor’s degree or higher (Pollard & Jacobsen, 2011).

The current study examined Mississippi communities that were part of the Appalachian Higher Education Network (AHEN). Inaugurated in 2000, AHEN’s mission is to increase the college-going rate and raise the education attainment levels of students in Appalachian communities. Centers for advancing this mission have been established in many of the states served by the Appalachian Regional Commission, and they have been successful in increasing the college-going rate in these states. Schwartz (2004) noted that an “increased number of students attending some form of postsecondary education has been carefully documented” (p. 16). In 2009, seven Mississippi communities were awarded grants of approximately $10,000 per year for two years to develop and conduct programs to increase the college-going rate of the students in their local public schools. In 2010, four additional grants were awarded. Communities were required to model successful activities at other AHEN centers. The communities used project-sponsored activities including parent and community participation and included such activities as college visits, workshops for students and parents, and mentoring programs. In addition to funds for programs, personnel at the university overseeing the project provided the communities with technical assistance.

**Method**

The leaders of each of eleven grant-supported projects aimed at increasing the college-going rate of high school students in rural Appalachian counties in Mississippi were asked to complete an annual report form as part of the conditions of receiving the grant. Ten of the project leaders gave the researcher permission to include their responses in future research studies. Two of the project leaders responded that they were unable to completely implement the project during the year and did not provide responses to all of the questions.

As part of the annual report, grant leaders addressed the following four questions; they were not limited in the number of items they could identify on each question.

1. What factors had the greatest impact on increasing the college-going rate at your school?
2. What activities had the least impact? In other words, what did not work well?
3. Did you have improved parental participation in school activities? If yes, please share what worked and what did not?
4. Since this is a community-based project, describe community participation. Did you meet your expectations? What worked and what did not? What did you learn about getting community involvement in this program?

The researcher analyzed the responses given by each leader and noted patterns in the data. Responses were examined to determine the leaders’ perceptions about which factors they felt impacted the college-going rate at their schools, parental participation in school activities, and community participation.

**Findings**

The findings were organized according to the themes noted in the data analysis.

**Factors with Most Impact on College-going Rate**

Data analysis showed that participants perceived certain factors as more influential than others in influencing the college-going rate.

Factors listed by the greatest number of respondents as having the most impact on college-going rates
were college campus visits (7), followed by ACT preparation workshops (5). Two respondents each listed offering financial aid workshops and providing workshops related to college attendance for school personnel.

The number of campus visits indicated by respondents ranged from two to six, with a mean of four. Of the postsecondary institutions visited, 58 percent were universities and 42 percent were community colleges. In five of the eight projects, all seniors participated in at least one campus visit. One respondent noted that “the college visits helped our students experience what it was like to be at a college campus. Many of our students had never been on a campus. For them to experience it, they can now visualize themselves being there.” Another commented, “Our students desperately need the exposure to different college environments. While the local community college is ideal for most of our students, others would thrive in a bigger school setting. Just being able to visit the other colleges around the state helped many of our students want to attend college.”

The ACT preparation workshops were important to ensure students met requirements to apply to post-secondary institutions. One respondent noted, “The ACT is also something that can stand in the way of college and were thus not interested in learning about the college. For future campus visits to ensure that college visits were perceived as having the least impact by one respondent who emphasized the consequences of choosing students who were not qualified to attend a given college for a visit to that college. She reported behavior problems during the visits from some of those students and speculated the problems were due to the fact that the students knew they would not be attending the college and were thus not interested in learning about the college. For future campus visits to ensure that college visits were perceived to be valuable, project leaders required students attending to have the qualifications to attend that specific college. Mentor socials were perceived as being less valuable, as rather than socialize, mentors preferred to work with students and parents on specific projects. As one respondent commented, “We believe that the volunteers wanted time to really ‘matter’ and so they would come to the events where they were doing something, like helping the student complete a FAFSA or study for the ACT or visit a college for the first time.”

Factors with Least Impact on College-going Rate

While respondents listed several factors they perceived had the least impact on increasing the college-going rate at the school, there was no commonality and no one factor was identified more than once. Items listed included the financial aid workshop. Reasons for why the financial aid workshop was unsuccessful included it was offered too late and that it was not well-attended. Linked to the financial aid workshop was offering financial aid completion assistance for people not comfortable with computers. One respondent noted, “Many people did not want to work on the computers and were not comfortable with the format of the event. Because of reluctance to work on computers, many attendees wanted the instructor to work step-by-step on the paper version of the applications.”

Other factors reported to have low impact were providing career information, college visits, and mentor socials. One respondent noted that although the career information software that they used was interesting for the students and provided information about educational requirements for various careers, using the software did not change students’ attitudes about going to college. College visits were perceived as having the least impact by one respondent who emphasized the consequences of choosing students who were not qualified to attend a given college for a visit to that college. She reported behavior problems during the visits from some of those students and speculated the problems were due to the fact that the students knew they would not be attending the college and were thus not interested in learning about the college. For future campus visits to ensure that college visits were perceived to be valuable, project leaders required students attending to have the qualifications to attend that specific college. Mentor socials were perceived as being less valuable, as rather than socialize, mentors preferred to work with students and parents on specific projects. As one respondent commented, “We believe that the volunteers wanted time to really ‘matter’ and so they would come to the events where they were doing something, like helping the student complete a FAFSA or study for the ACT or visit a college for the first time.”

Improved Parental Participation

Respondents indicated the importance of hosting events and workshops for parents and noted useful
strategies to increase attendance, including making sure parents knew about the events and providing food. One respondent noted, “We basically started with little to no parent participation. We were diligent about making contacts and saw significant improvements.” Another respondent commented, “We saw several parents that came to [our] programs that we had otherwise not seen at school events.” Most of the respondents indicated because of the initiatives they put in place, they had improved parental participation in school activities related to post-secondary opportunities. Most respondents indicated that hosting events and workshops for parents had been effective, and providing food at events was an added incentive; two respondents specifically observed the effectiveness of sending invitations and notices to parents about events. In addition, providing mentors to assist parents at workshops to complete the FAFSA was successful. Activities such as using parents as chaperones on campus visits and involving parents in assembling care packages for students receiving acceptance letters to college were also deemed successful. One respondent noted that they held a back-to-school rally and had good participation; it was the first of this type of activity to be held at their school.

Involving the Community

As part of the requirements of the grant, each school worked with a community-based group in the planning and implementation of the project activities. Throughout the reporting period, some schools had successful working relationships with community members and were able to work with those entities in their efforts. Other schools faced challenges in determining roles and responsibilities for the various partners.

Respondents were asked to indicate if they met their community participation expectations. Of the five respondents who directly indicated if they met their expectations for community participation, two indicated they did not while three indicated they did. One respondent indicated that they had “outstanding community support” with involvement of city officials, business owners, government employees, and school district personnel.

Respondents noted successful methods for encouraging community participation. One respondent indicated that emailing community members with requests did not work, while making requests one-on-one was more effective. In particular, contacting a variety of community members was most effective in increasing community involvement and resulted in “new” volunteers who weren’t as busy with other organizational commitments.” One leader noted the benefit of searching for and contacting potential community volunteers who may not have been involved in other community service activities and thus had more time to devote to the students. One respondent indicated, “We learned that it is important to locate someone in the community who is as motivated and committed to improving life of young people.”

When asked about which activities worked and which did not to increase community participation, respondents’ answers about what worked primarily pertained to community members’ participation in various events held at the school. Respondents noted community members’ participation in college or reality fairs as well as serving as judges for exit projects presentations. Community members also helped plan and host activities such as awards banquets, workshops for parents and students, and campus visits. One respondent noted, “Having the key activities and recruiting a diverse and qualified group of mentors had the greatest impact on affecting our college-going rate.”

Discussion

The leaders’ perceptions of the factors having the greatest impact on increasing the college-going rate at their schools corresponded to the research related to increasing the college-going rate among rural students. Respondents indicated the importance of involving mentors, providing opportunities for job shadowing, supplying career information, and hosting a college week at the school. This is in agreement with recommendations by the National Center for Education Evaluation (2009) that high schools “surround students with adults and peers who build and support their college-going aspirations.” In addition, this is consistent with findings by Hooker and Brand (2009) that mentoring and other relationships contributed to students’ attendance and success in college. According to the United States Department of Agriculture Economic Research Service (2009), average earnings and education levels are substantially lower for non-metro workers. Rural students may be at a disadvantage when making college attendance decisions because their family and community members have low levels of educational attainment. Perhaps mentors and other community members provided the information and encouragement that many rural students’ parents were unable to provide.

Respondents also indicated the importance of college campus visits, ACT preparation workshops, workshops related to college attendance for school personnel, assistance with ACT sign-up and
transportation to ACT testing site, and visits by college representatives. This is in agreement with recommendations by the National Center for Education Evaluation (2009) that high schools “engage and assist students in completing critical steps for college entry.” As Bell et al. (2009) reported, students often lack knowledge about college entry. Perhaps exposure to the college environment and personnel helped students make a personal connection to the college and gave them an opportunity to see themselves as students in that environment. Further, providing students assistance with taking required entrance exams may have prompted them to take that necessary step toward college entry, something they might have delayed if left to do so on their own.

In addition, respondents indicated the importance of financial aid workshops and mentor assistance with FAFSA completion. As recommended by the National Center for Education Evaluation (2009), high schools should “increase families’ financial awareness, and help students apply for financial aid.” As reported by Chenoweth and Galliher (2004), rural students had numerous problems when making decisions about attending college, but two of the most common were having financial resources and having information about financial aid. Conceivably, rural students and their parents should be provided information about obtaining financial aid as well as hands-on assistance in completing the necessary steps.

Factors noted as least effective were sometimes related to local issues. One respondent noted that participants completing financial aid forms were not comfortable with computers. Perhaps offering basic computer training as part of the workshop would have helped parents feel more comfortable with the technology. In addition, providing financial aid workshops early enough in the school year for students to meet scholarship and other deadlines is beneficial. With respect to student behavior problems on college campus visits a suggestion was that in the future, only students who were qualified to attend that college would be allowed to participate in a visit to that college. One respondent indicated that mentor socials had the least impact; she went on to state that mentors preferred activities in which they were directly involved in helping the students rather than only socializing. Perhaps students and mentors felt uncomfortable or that they were not using the time wisely when socializing.

Parental support is crucial in rural students’ decisions to attend college. The National Postsecondary Education Cooperative (2007) reported that parents play the strongest role in decisions about college attendance. In addition, the National Center for Education Evaluation (2009) has shown that providing students and their parents with information about the college admissions process and involving mentors are important. As a result, one focus of this project was to improve parental participation. The respondents noted the importance of providing workshops for parents and of making sure that parents were aware of those workshops and providing food. Some respondents noted the effectiveness of providing mentors to assist parents at workshops and involving parents in college campus visits. Perhaps other efforts to involve parents in school activities would impact parental support for college attendance as well.

Community support of school efforts to increase college attendance is also important. Both the National Center for Education Evaluation (2009) and Hooker and Brand (2009) note the importance of mentoring relationships on students’ college attendance decisions. In this study, methods to increase community participation emphasized finding those volunteers who had the time and passion for helping the students. While some schools were successful in working with community members, other schools faced challenges in building these relationships. Perhaps time and additional efforts to make those connections would increase levels of community support. In addition, conceivably, those schools who were successful may share best practices with schools struggling to build these relationships.

**Implications**

There are numerous influences on the educational aspirations of rural youth, and a number of strategies may be used to encourage these rural youth to pursue higher education. College campus visits provide students, some of whom have never experienced a college campus, with a glimpse of what they are like and may help make students feel more at ease about attending college. ACT preparation workshops, and other assistance with taking the test, may help students increase their test scores and may prod reluctant or procrastinating students to sign up for and take the ACT test. Workshops for students, parents, and school personnel are important to provide understanding of college entrance requirement and procedures for obtaining financial aid. Involving the community through long-term relationships such as mentoring, as well as more short-term encounters such as career fairs or job shadowing, are also important components to help rural students connect to professionals who can encourage and assist them as they make decisions.
and take necessary steps to attend college.

This study examined the perceptions of leaders of grant-supported projects aimed at increasing the college-going rate of high school students in rural Appalachian counties. There were some limitations to the study, including the lack of conclusive data for the change in the college-going rate at each school at the time the project leaders completed the report and the fact that the information is based on the self-reported perceptions of each project leader. Despite these limitations, the information provided by the project leaders may be useful in guiding others working with similar projects.

References


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Acknowledgement: This research was supported by Appalachian Regional Commission Grant MS-16115.
Teaching Elementary Children with Autism: Addressing Teacher Challenges and Preparation Needs

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Teachers’ perception of self-efficacy may have a significant impact on their ability to accept the challenges inherent in including children with autism in their classrooms. The Nominal Group Technique (NGT) was used to identify perceived challenges and needs of 31 graduate students in a university course of which 14 of the 23 students were actively teaching in rural schools located in southeast Alabama. Five faculty members used the resulting NGT data to draft six recommendations for improving the teacher preparation program at Troy University.

Keywords: autism, pre-service teachers, teacher education, general education, special education, teacher preparation

With the prevalence of autism increasing exponentially in today’s classrooms (Leech, 2008), general education teachers face a broad range of challenges within inclusive settings. Like the little steam engine in The Little Engine That Could (Piper, 1930) overcoming such challenges may seem daunting to teachers who feel unprepared to deal with this complex disorder. This is problematic because teachers’ perceptions and attitudes regarding inclusion are fundamental to their acceptance of and willingness to address the challenges with which they are charged (Avramidis, Bayliss, & Burden, 2000; Carrington, 1999; Hastings & Oakford, 2003; Norwich, 2002). These issues may be of particular challenge to teachers in rural areas where the low incidence of autism results in lower student numbers exhibiting this trait and teachers who have little experience working with students with autism and also limited access to training, funding and resources.

Due to the prevalence of autism at state, national, and international levels, it is likely that most elementary education graduates will teach children with autism and should be prepared to include them in general education classes (Goodman & Williams, 2007; Mitchem & Richards, 2003).

At Troy University, the elementary certification programs include (a) Elementary Education, K-6, (b) Collaborative Teacher, K-6, and (c) Interdisciplinary Education (P-12). All the teacher education programs comply with the Alabama Model of Identifying Highly Qualified Teachers in accordance with the No Child Left Behind Act (NCLB, 2001). Therefore, the purpose of this study was to gather information to develop and/or revise curricula at Troy University in Troy, Alabama to prepare our elementary education teacher graduates to educate all children, including those with autism, in general education classrooms. The research question that guided this study was: How adequate is the current teacher preparation program for preparing general education teachers for teaching children with autism?

Background

The level of specialization needed by educators who teach students with autism is not readily available throughout Alabama (“Final report to,” 2009). Leech (2008) reports, “In 1991, just three students in Alabama’s public schools were diagnosed with autism. During the 2007-08 school year, the number was 2,737 and that number is expected to climb” (p. 1). Despite this exponential increase, teachers and schools are
unprepared to address the needs of children with autism. Joel Smith, director of the autism program at Councill Elementary School in Birmingham, observed:

People tell me I do a great job, but I don’t think I do. I know these kids are intelligent and I would love to know how to unlock that potential, but I just don’t have the training or research to do it. (Leech, 2008, p.1)

In the state of Alabama, educators report feeling inadequately prepared to teach children with autism in inclusive settings (Campbell, Ellis, Baxter, & Nicholls, 2007). Many general educators have only taken survey courses in exceptionality and therefore, have little specialized training in the field of autism. A statewide random sample of the general population indicated that 63% of respondents felt that more support is needed for schools serving children with autism and approximately 70% of the general public reported no knowledge of community services for people with autism (Campbell et al., 2007). While the survey did not address rural areas in Alabama specifically, it is important to note that 55 of Alabama’s 67 counties are rural.

**Theoretical Framework**

Lack of motivation and self-efficacy in teachers are often root causes of ineffective teaching of children with autism (Avramidis et al., 2000). *Effectance Motivation Theory*, sometimes referred to as mastery motivation (White, 1959), suggests that there is a link between motivation to engage in a difficult task and perceived confidence in one’s ability to perform that task. White posits that people have an inborn motivation to feel competent and succeed with tasks. When people do not feel they can succeed at what they attempt to do, they are less likely to try. Harter (1978) built on this theory by hypothesizing that people with high levels of self-efficacy tend to enjoy tasks more, which leads to increased intrinsic motivation; a cyclical effect is then produced. In essence, the intrinsic motivation to attempt and persist with a task is related to perceptions of competence.

Mastery motivation theory is especially applicable to teachers of children with autism. General educators have consistently expressed misgivings about teaching children with autism due to feelings of inadequate preparation (Lambe, 2007). In addition, some studies show that teachers believe teaching children with autism should be the job of the special educator (Booth & Ainscow, 2002). Providing adequate training and diverse clinical experiences to serve children with autism may help increase teachers’ sense of self-efficacy. When teachers begin to feel competent in their abilities to teach children with autism, they may be more motivated to address the challenges and accept their responsibilities for teaching these children. Once this cyclical effect has evolved, teachers may begin to view teaching children with autism as equivalent to facing any other challenge they may encounter in their classroom. Like the little steam engine, teachers can be expected to experience a change in their belief system from “I don’t know how” or “It is not my job” to “I think I can.”

Regardless of teachers’ feelings or beliefs, teaching children with disabilities in the least restrictive environment is a requirement as outlined by the federal legislation, *Individual with Disabilities Education Act* (IDEA, 2004). IDEA states:

> Each state must establish procedures to assure that, to the maximum extent appropriate, children with disabilities…are educated with children who are not disabled, and that special education, separate schooling, or other removal of children with disabilities from the regular educational environment occurs only when the nature or severity of the disability is such that education services cannot be achieved satisfactorily. (IDEA, 20 U.S.C. 1412 (5) (B))

The least restrictive environment is often referred to as inclusion. Moore and Keefe (2004) lament that commendable attempts to seek equal and appropriate education for students with disabilities have become politically charged and have changed the focus from how to educate these students to where to educate them. The mandates of IDEA (2004) are clear: Teaching children with autism is no longer the sole responsibility of the special educator. This paradigm shift requires all educators to focus on how best to address the needs of all of the children in their classrooms rather than on where this responsibility lies – with general educators, or with special educators. Therefore, general educators need adequate knowledge and training, including clinical experiences, for teaching children with autism.

Autism is especially challenging for teachers because it is a spectrum disorder that affects individuals differently and in varying degrees. In
its *School Community Tool Kit*, the Autism Society of America (2008) states, “If you’ve seen one person with autism, you’ve seen one person with autism” (p. 3). The word autism is a generic term that describes a complex group of disorders that are known as Pervasive Developmental Disorders (PDD) or Autism Spectrum Disorders (ASD). The PDDs include autistic disorder, Asperger’s, PDD not otherwise specified, Rett’s, and Childhood Disintegrative Disorder. Autism is a neurological disorder that affects the normal functioning of the brain and symptoms typically appear during the first three years of life.

According to the Center for Disease Control and Prevention (2007), one in every 150 children has an autism spectrum disorder, with males outnumbering females by four to one. Autism is growing exponentially at a rate of 10-17% per year (Autism Society of America, 2008), and the overall incidence is consistent on an international level. Autism affects individuals of all racial, ethnic, and social categories, including families of varying income levels, lifestyle choices, and educational levels. However, the difficulties associated with children with autism are especially pronounced in rural areas where resources are generally sparse.

Children with autism are educated on a continuum of educational services, with the most popular placement being in self-contained classrooms taught by teachers with specialized preparation and licensure. However, increasing numbers of children with autism are being fully included in general education classrooms where general educators teach them (Goodman & Williams, 2007). Frequently general educators do not have special preparation and may feel unprepared to resolve the perceived challenges of teaching children with autism (Rosenweig, 2009). Therefore, there is a compelling need to improve the preparation of teachers required to serve these students.

**Personnel Needs in Rural Areas**

Federal legislation calls for evidence-based intervention strategies to be used in teaching children with autism by highly qualified staff (Individuals with Disabilities Education Act, 2004; *No Child Left Behind*, 2001). In rural areas with small schools with low enrollment, this may be a challenge, as educators are sometimes required to serve students with disabilities for which they are not certified (Cates & Smiley, 2000). Special education licensure varies from state to state. Some states require certification in discrete categories (e.g., intellectual disabilities, emotional disturbance), whereas other states require non-categorical or cross-categorical certification (e.g., mild/moderate, moderate/severe disabilities, severe/profound) (Cates & Smiley, 2000; Scheuermann, Webber, Boutot, & Goodwin, 2003).

Rosenkoetter, Irwin and Saceda (2004) report there is a chronic shortage of special educators in rural areas, including too few teachers, related personnel, and professionals who are sufficiently prepared to work with special needs students. In addition, the mandate of *No Child Left Behind Act* (NCLB) 2001 requires highly qualified teachers for every subject area, which includes special education. Scheuermann et al. (2003) reported that little formal data exist about personnel preparation in autism. If a teacher meets state standards for certification, but has no coursework in or experience with autism, is that teacher highly qualified to teach students with autism? Teachers need specialized instructional techniques, unique curriculum, and coordinated services to successfully serve these students in inclusive settings.

**Method**

The purpose of this study is to evaluate a program of study at Troy University in an effort to prepare highly effective teachers to work with not only with regular education students but also with students with disabilities, and in particular students with autism. Data will be used to structure a hypothesis about the effectiveness of the elementary education graduate program in preparing teachers for inclusive classrooms.

**Context**

Troy University, a medium-sized rural university in southeast Alabama, is located in Pike County. The city of Troy has 14,000 residents and is approximately 53 miles from the nearest airport. Residents living in rural areas like those in Pike County, often experience analogous problems such as lack of telecommunications, residents with few technology skills, gap between traditional and progressive political views, lack of unification among governmental entities, and lack of legislative support for rural initiatives (The Regional Economy of Upstate New York, 2001). According to the Alabama Rural Health Association (ARHA), all sixty-seven counties in
Alabama have rural areas. Therefore, the ARHA determines “rural” or “urban” status at the county level based upon criteria established by the White House’s Office of Management and Budget (OMB). The ARHA classifies 55 of Alabama’s 67 counties as “rural.”

**Participants**

Purposive sampling was used in this study because of the participants’ employment and/or clinical field experiences in rural schools. Students enrolled in the graduate courses **EDU 6629 Master Teacher** and **SPE 6630 Collaboration for Inclusion** were invited to participate in the study on a voluntary basis. Thirty-one students accepted the invitation to participate. Of these, 23 were employed as teachers: Twenty-one of these teachers were general educators and one was special educator. The remaining 9 participants are not regularly employed in a teaching capacity. Based on the responses from the participants in this study, 14 taught in “rural” schools, 7 in “urban” schools, and 2 taught in “suburban” schools. Of the eight Southeast Alabama counties represented (Barbour, Coffee, Covington, Dale, Geneva, Henry, Houston, Pike) only one, Houston County is part of a metropolitan area as classified by ARHA. Work experience varied from 1 to 20 years. The race, and gender of the students were representative of the average College of Education (COE) graduate, i.e., white, female. All participants reported minimal or no training or experience regarding teaching children with autism. Table 1 shows the percentage of children with autism in the counties in which the participants were located compared with the total population of students for all counties in southeast Alabama.

### Table 1

**Frequencies for Autistic Population Compared to Total Population in Southeast Alabama Counties**

<table>
<thead>
<tr>
<th>County</th>
<th>Children with autism aged 3-21</th>
<th>Total Public School General Population</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pike</td>
<td>3</td>
<td>4429</td>
<td>.06</td>
</tr>
<tr>
<td>Barbour</td>
<td>4</td>
<td>3802</td>
<td>.10</td>
</tr>
<tr>
<td>Coffee</td>
<td>4</td>
<td>9122</td>
<td>.04</td>
</tr>
<tr>
<td>Covington</td>
<td>15</td>
<td>6156</td>
<td>.24</td>
</tr>
<tr>
<td>Dale</td>
<td>8</td>
<td>6592</td>
<td>.12</td>
</tr>
<tr>
<td>Geneva</td>
<td>6</td>
<td>3960</td>
<td>.15</td>
</tr>
<tr>
<td>Henry</td>
<td>10</td>
<td>2780</td>
<td>.35</td>
</tr>
<tr>
<td>Houston</td>
<td>32</td>
<td>15515</td>
<td>.20</td>
</tr>
</tbody>
</table>
The data show that there are 82 children with autism in a total public school population of 52,356 students. With the prevalence of being approximately 1% of the total population, teacher education candidates have few opportunities for experiences teaching children with autism.

**Procedures**

The Nominal Group Technique (NGT) was used to facilitate identification of potential areas for improvement in the education curriculum at Troy University. The need for improvement was based on recognition that students might not feel empowered while working with students who have autism if they are not provided with curricular input that specifically addresses this population. NGT is a supervised, consensus-building, process. Groups use this process to reach agreement as they identify and define problems and generate solutions. It assures that all group members participate freely and are not influenced by other members. Davis, Rhodes and Baker (1998) used this tool to facilitate curriculum revision in a nursing program. These authors noted that NGT has been “employed by educational, industrial, health, social services, and governmental organizations to enhance problem solving by groups” (p. 327).

The participating students were enrolled in the Collaboration in Education and/or The Master Teacher classes. They had been introduced to the NGT process as they explored brainstorming. A classroom exercise had been conducted that included the use of this process. Therefore, the students were familiar with the procedures. Prior to the implementation of the NGT process, students were presented with a brief (1 hour) lecture on the characteristics of children with autism, common features of “best practice” education for these children, and a brief video-clip of a child with autism engaged in educational activities. They were then given the question/topic of concern to be addressed. The question was “What challenges can you expect when teaching children with autism?” This question was written as an issue and no solutions were offered. The students were assured that there was no single correct answer. After the introduction of the first question, the students engaged in silent problem generation. The problem generation phase lasted about 10 minutes. This was done to enhance individual input into the process. Each student shared one idea at a time from his or her list in a round-robin format. The faculty facilitator recorded their responses on a smart board. Each item was listed separately with no combining of similar ideas or discussion of the items. This procedure continued until all items were displayed. At this time, each idea was fully discussed with students being encouraged to share their negative and positive thoughts about the items. An effort was made to ensure that everyone fully understood the meaning of each item. Further explanation was elicited as necessary. When the students agreed that some ideas were the same, the duplicate items were combined. Each alternative was given a number and the students were asked to rank order their top 5 alternatives with 5 being the most important. This was done by listing the ideas on take out index cards and writing their rank in the bottom right hand corner of the card. The facilitator gathered the cards and assistants recorded the rankings beside the alternative. This assured that all rankings were confidential. The ranks for each alternative were averaged with higher totals indicating higher rank.

**Data Analysis**

The data collected were analyzed holistically for the purpose of hypotheses generation and explanation building. The outcomes of the group process were recorded, summarized and reviewed for recurring themes. The researchers sought multiple interpretations by reducing the data both individually and collaboratively. After reading the data initially and recording general themes individually, the researchers met collaboratively to discuss analysis. Consensus of major themes was reached during discussion. The goal of this collaborative process was to clarify understandings of what might be important to examine in subsequent case studies. The researchers determined that more comprehensive data sources would contribute to the goal of holistic understanding as well as provide more rigor to the results of the study.

**Results**

Five challenges evolved in response to the question, “What challenges can you expect when teaching children with autism?” Participants were also asked, “What information/support would help you meet these challenges?” Responses were categorized into three areas of perceived needs.

**Perceived Challenges**

The first challenge is rooted in the belief that teaching children with autism is a highly individualized and specialized process that requires highly specialized skills and personal attributes. The participants felt that to effectively teach the autistic child, the teacher required to be highly trained in that particular area. They did not feel that a regular classroom teacher would have the specialized skills needed to address this disability. The participants also indicated teachers would need specific qualities to successfully meet the needs of children with autism. These personal attributes were deemed specific to special education pre-
service teachers. For example, a special education pre-service teacher would need to be flexible and willing to adapt curriculum or modify an activity that is not working for his or her students. At the same time, though, the special education teacher needs to maintain structure within the classroom, knowing that too much variation in routine will frustrate students with autism. They have to balance between being flexible and yet structured.

The second challenge concerned collaboration with other teachers and parents of children with autism and the respondents noted that such collaboration is time-consuming and difficult. Realizing the complexity of the autism disorder, participants were concerned about the amount of time that would be required to collaborate with other teachers and professionals, including special educators. In addition, partnership with parents was discussed as vital to adequate education of children with autism, yet enormously time-consuming. With the demands in today’s schools for meeting NCLB mandates, participants were concerned about how they would fit in all that is required of them.

An assumption that behaviors of children with autism are atypical, complex, and potentially very disruptive of general education classrooms was the third perceived challenge. The participants reported their views of children with autism as being outside the norm. They perceived children with autism may exhibit abnormal or aberrant behavior that would not be seen in the average or “normal” classroom student. They also believed that autistic students would disrupt the routine of the classroom with special needs for misbehavior, time constraints, and extra assistance needed for work.

The fourth perceived challenge involved a belief that required Individualized Education Plan (IEP) procedures, data collection, and record keeping for children with autism are extensive and redundant. Most of the participants were not confident in their abilities to write an effective IEP for a student with special needs. Although they appeared to understand the purpose of an IEP and how it was to be used, they fell short in their projected confidence in writing an IEP and the actual implementation of it.

The fifth challenge was participants’ assumption that most general education teachers lack the basic knowledge and skills needed to fully include children with autism in their classrooms. Because early intervention is key to assisting children with autism, teachers—general and special educators alike—need adequate training in identification at early ages. Jennifer Sellers, assistant director of the Auburn University Autism Center, says, “In many places in rural Alabama, teachers may dismiss an autistic child as ‘Oh, he’s just a geek,’ or ‘that child is odd,’ not knowing that child is on autism the spectrum. With proper training, teachers will be able to see that something is not right, and that can lead to an earlier diagnosis (Leech, 2008, pp. 3-4). The participants generally spoke of autistic students as children who “couldn’t communicate” so they would be difficult to teach.

After the participants explored the challenges they thought they would face when teaching children with autism, they were asked to discuss what they would need to meet these challenges.

Perceived Needs

Participants perceived that the curriculum in teacher training programs was still too segregated and had not evolved to reflect the current needs of today’s students and classrooms, especially in rural areas where many participants had limited encounters with children with autism.

The first perceived need was that more information was needed regarding the process, procedures, and practices for teacher and family collaboration for effective inclusion. This indicates recognition of the critical nature of engaging in goal-oriented activities that facilitate this process. This might be attributed to the fact that many of the participants had already taken a required university course on collaboration. It might also be due to the fact that many are working professionals and parents and recognize the importance of these individuals in that process.

The second perceived need was that more case and field-based experiences were required for pre-service teachers. This need is difficult to address especially in rural areas due to the availability of quality experiences in inclusive settings. As autism is being more efficiently and effectively identified, this restriction to pre-service learning may be one that can be lifted soon. Presently, the rural school systems within our geographic range do not have enough numbers of identified autism students (Table 1) to accommodate the number of pre-service candidates who need field or clinical experiences in this area. Diverse field experiences in both general education and special education settings are necessary to meet this important need (Lambe, 2007). The participants from both collaborative or special education settings as regular classroom educators expressed the need to work with and observe autistic students within the special education setting and within the regular classroom setting.

The third perceived need was increased access to current research and best practice teaching strategies needed for teaching children with autism. Alabama’s Department of Education is implementing an inexpensive method of training general educators in effective teaching practices for children with autism. Distance learning technologies are being utilized in an effort to
provide teachers with professional development opportunities, including a three-month course on autism taught by national experts in the field of autism (Leech, 2008). The participants stated a need for more research and investigation within their own graduate courses to provide more effective understanding of the most current teaching practices for children with autism. The findings of this study represent considerable attitudinal barriers to inclusion of children with autism.

Implications

Prior research suggests that the quality of teacher preparation programs is the most important factor influencing pre-service teachers’ motivation for teaching children with autism (Douglas, Forlin, & Hattie, 1996; Harvey, 1985; Lambe & Bones, 2006). Outcomes of this study confirm and extend those findings and suggest that existing teacher education programs often do not adequately prepare educators to resolve challenges associated with teaching children with autism in inclusive classrooms. The findings of this study suggest that the current teacher preparation program at Troy University is inadequately preparing teacher education graduates to deal effectively with the inclusion of children with autism. The five Troy University faculty members involved in the NGT considered these results, critiqued the existing curricula and formulated the following six recommendations to overcome the gaps in the current teacher preparation program for elementary education graduates. These recommendations are offered as partial remediation of the challenges identified by the graduate student group and are intended to promote teacher self-efficacy for including children with autism in general education classrooms.

Recommendation #1

Introductory coursework for teachers in preparation programs should be reconfigured to present inclusion of children with significant disabilities (such as autism) as a common and achievable educational practice. Jones (1996) reflected on the challenges teachers face in dispelling traditional myths about how individuals with disabilities are integrated into society. Reconfiguration should begin with an introductory course regarding children with disabilities that is commonly offered for all pre-service educators. This course is typically presented as a survey of various disabilities and resulting educational limitations. Autism is presented as a severe disability resulting in significant (and potentially segregating) limitations. Reconfigured introductory coursework should present inclusion of children with autism as a preferred norm and a readily achievable educational outcome.

Recommendation #2

Empirically validated and best practice procedures that promote inclusive outcomes and benefit all children should be routinely incorporated into teacher preparation programs and competency assessments. Inclusive education should be presented as resulting from routine instructional adaptations implemented by all educators in the context of classrooms for all children, for example, co-teaching, peer tutoring, cooperative learning, and positive behavior support planning. Presentation of best practices should include case-based instruction and examples of successful applications leading to inclusive outcomes for children with autism. Study participants suggested that professors in the general and special education areas in teacher preparation programs should collaborate and co-teach more to provide (a) a model for teachers in training as K-12 general educators frequently co-teach with special educators and learn from each other’s expertise as they work toward the goal of providing the best educational experiences for their students; (b) a more seamless curriculum. Curriculum committees from all disciplines should be tasked with developing objectives and competencies for general and special educator collaboration and co-teaching for inclusive outcomes. These opportunities build on the curriculum expertise of general educators and the accommodations expertise of special educators.

Recommendation #3

The faculty in pre-service programs should identify and/or prepare and consistently present case-based tutorials using DVDs of actual classrooms and teachers to model best practice instruction for including children with autism in general education classes. By observing effective teaching of autistic students through modeling, pre-service teachers vicariously experience competencies on how to teach these students in their own classrooms.

Recommendation #4

Teachers in preparation should have multiple opportunities to observe and engage in successful inclusive education for children with disabilities. School-based features of teacher preparation programs commonly include observations, field based assignments, and supervised teaching internships. To this end, we recommend identifying best practice community classrooms and schools serving children with autism, whose teachers and administrators are willing to partner with the university in providing opportunities for pre-service teachers to work with children with autism.

Recommendation #5

Teachers in training should have multiple
opportunities to meet and interact with parents and family members of children with disabilities with the goal of promoting partnerships for maximum student success. Whenever possible this experience should be in the context of routine and successful educational planning and documentation (such IEP meetings) regarding education of children with autism.

**Recommendation #6**

Additionally, as area schools do not necessarily include a large enough pool of identified autistic students to provide clinical and field experiences for all pre-service teachers, participants suggested initiating an autism center on campus at Troy University that would allow pre-service teachers to interact regularly not only with students with autism, but also with staff who teach and work with them. Such a center would also serve as a resource for parents of children with autism.

**Limitations**

The findings in this study may only be representative of Troy University. The population at Troy University, however, is diverse and the curriculum is accredited. It is important to note that a convenience sample was used in this study, which may further limit its applicability. In addition, as noted by Skibbe (1986), the following limitations are inherent with the NGT: (a) the generation of ideas is limited to the actual time spent at the meeting, (b) the lack of anonymous authorship can make participants play it safe, and (c) ideas may be evaluated on their source, rather than their merit. Further studies are needed to provide more comprehensive information on the preparedness of teachers of children with autism. Although some case studies use only one method of data collection, having multiple sources increases the rigor of the study (Tellis, 1997).

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**Conclusion**

Successful teacher preparation programs assess the needs of their graduates and use these data to make needed changes to the current curricula, delivery methods, and focus of study so that graduates are adequately prepared to deal with the realities of a classroom. Teacher preparation programs must evolve to meet the current needs of today’s students, classrooms, and schools. The results of this study provide insights into teacher perceptions of their abilities regarding teaching children with autism. As White (1959) suggested in his *Effectance Theory* of motivation, to be motivated, individuals must believe they are being effective: Perceptions often dictate reality. If teachers have superior training, preparation and experiences, and are provided the tools to facilitate success, they will begin to feel more confident in their abilities to teach children with autism and other disabilities. Teachers will feel empowered and the challenges that they face will become less daunting. Like The Little Engine, they will be able to persist in the face of difficulties. Our goal is to prepare graduates effectively so that they see teaching children with autism as no more of a challenge than teaching any other child in the classroom; it just requires different instructional approaches. With proper training and experiences, it is our hope that our teachers will be empowered to the point that they will go beyond saying ‘I think I can’ to ‘I knew I could.’


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Developing a Rural Teacher Education Curriculum Package

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This paper documents the development of a new website (www.rrrtec.net.au) specifically designed to better equip teacher educators to prepare graduates to teach in rural and regional communities. The two year study (2009-2011) that informed the website’s creation included three data sources: A literature review of research into rural teacher education, a survey of pre-service students who had completed a rural practicum and interviews with teacher educators about the current strategies they used to raise awareness and understanding of the needs of rural students, their families, and communities. An analysis of the data revealed that teacher educators need to focus more on developing graduates to be not only ‘classroom ready’ but also ‘school and community ready’. This analysis provided the framework for the creation of a set of curriculum modules and resources including journal articles, film clips, websites and books that teacher educators could readily and publicly access and use in their own classroom teaching.

Key words: teacher education, rural education, professional learning, curriculum.

While there is a growing recognition of the need to prepare teachers to better understand student diversity in their classrooms, there is little focus on preparing teachers for the diversity of the contexts or communities in which these teachers might find themselves placed. Yet ‘place’ particularly matters when it comes to staffing. In North America as in Australia, rural schools face a greater pressure to attract and retain quality teachers than their urban counterparts (Allen & Malloy, 2007; Bryant, 2006; Green & Reid, 2004). In the Australian context, there currently exists an ‘over supply’ of teacher graduates; however, this supply does not filter through to the rural, regional and remote communities where they are needed most (Tibbetts, 2008). Simplistically, the further away and inland from an Australian capital city the more difficult it is to recruit and retain teachers. It does not appear that simply preparing more teachers is therefore the answer to the staffing needs of rural and regional communities. What is argued and documented in this paper is the need for a re-conceptualisation of teacher education curriculum and a more integrated approach between course work and the rural professional experience (practicum). Teacher education thus could be the key to solving rural, regional and remote staffing issues (White et al., 2008).

Australian Teacher Education Curriculum

Until most recently in the Australian context, the majority of universities have had little to no explicit focus on understanding rural or regional communities in their teacher education programs. They have had rather random and ad hoc rural professional experience (practicum) opportunities offered to their students. Students who do choose to take up a rural placement usually suffer the financial burden as they travel and relocate to a new location for their practicum period. As a result the majority of students do not choose to complete a rural practicum (Halsey, 2005). While there does exist various Australian government financial incentives to encourage graduates to work in rural areas these are often not well understood by those who teach in the teacher education programs and thus, this valuable information is often left for pre-service teachers to uncover for themselves (see Reid et al., 2010; White et al., 2008).

It is clear that the lack of explicit information about rural teaching opportunities to pre-service teachers has meant that the needs of rural students, their families, and communities often remain invisible. Pre and in-service teachers are under prepared to be successful rural teachers and are thus unlikely to consider a future career teaching in rural areas.

This situation led to a study to address this issue with the brief to focus on the development of an inclusive, forward thinking, rural teacher education curriculum package aimed at specifically preparing teachers for diverse rural and regional communities. The two year Australian study on which this paper reports, is now known as RRRTEC (Renewing Rural and Regional Teacher Education Curriculum) and the history of the work is provided below to outline the study’s aims, the methodology, findings and the building of the RRRTEC website which houses a range of resources designed to be used by teacher educators. The website can be found at www.rrrtec.net.au.
The RRRTEC Study

Over four years ago, a team of teacher education researchers across Australia came together to investigate the issue of recruitment and retention of teachers for rural sustainability. Two national projects grew from this meeting. In 2008, the Australian Research Council (ARC) funded project Teacher Education for Rural and Regional Australia (TERRAnova) began and in 2009 the Rural and Regional Teacher Education Curriculum (RRRTEC) project was funded by the Australian Learning and Teaching Council (ALTC). Both projects have built from each other and as such, a rich model of theory-practice-policy nexus has emerged.

Building on the research and findings of TERRAnova that highlighted that a largely metrocenric ‘one size fits all’ model of teacher education was not sufficient in meeting the needs of rural teachers, the RRRTEC project looked at what teacher education could do differently to prepare teachers for the rural workforce. RRRTEC has aimed to develop a teacher education curriculum that is both inclusive of rural education needs and makes visible rural and regional teacher education research, curriculum resources, and pedagogical strategies for teacher education students. A centralised rural and regional resource repository, the website, has been developed to assist teacher educators in the preparation of pre-service teachers for working in rural and regional schools.

The study attempted to focus on uncovering the differences experienced by those who worked in rural contexts to establish particular gaps in knowledge and experience that teacher educators could better address and questions such as ‘what should teacher education teach to better meet the needs of rural students, their families and communities?’

Data Collected

The RRRTEC website resource has been developed from three main data sources. The first a literature search and analysis of the key research projects in Australia into rural (teacher) education over the last two decades (1990-2010); secondly a large longitudinal Australian survey of pre-service teachers who participated in a rural practicum experience (2008 -2010) as part of the TERRAnova project and thirdly in depth interviews with teacher educators (n=30) across Australia to investigate their knowledge about the needs of rural students and what strategies they currently use in preparing teachers for rural communities. Each data source is discussed below.

Literature Review

The literature review revealed a growing number of studies into the field of rural teacher education. Large Australian related studies in this area, include: the Rural [Teacher] Education Project (R[T]EP) (Green, 2008), funded as an Australian Research Council Linkage joint project involving the New South Wales Department of Education and Training, Charles Sturt University and the University of New England from 2002-2005; the National Survey of Science, ICT and Mathematics Education in Rural and Regional Australia (Lyons, Cooksey, Panizzon, Parnell & Pegg, 2006); Staffing an empty schoolhouse: attracting and retaining teachers in rural, remote and isolated communities study conducted by the New South Wales Teachers Federation, (Roberts, 2005); the Rural Education Forum of Australia’s ‘Pre-Service Country Teaching Costings Survey’ (Halsey, 2005); and most recently the three year (2008-2010) ARC funded project, TERRAnova. These and smaller localised studies paint a particular picture of the issues facing teachers and pre-service teachers working and living in rural communities.

Roberts (2005), in his report Staffing the Empty Schoolhouse, confirmed that Australia’s remote, rural and regional schools are frequently staffed with young, inexperienced teachers and teacher turnover is high. Distance from family, geographic isolation, weather, and limited shopping were all reported among the main reasons teachers gave for leaving rural areas (Collins, 1999). Halsey (2005) specifically explored the impact for pre-service teachers taking up a rural practicum experience, and highlighted the additional ‘social and economic costs’ pre-service teachers encountered in completing a rural professional experience. Sharplin (2002) examined the perceptions of taking up a rural career from the perspective of pre-service teachers and uncovered that for many, fears about access to resources, isolation, and cultural differences were associated with teaching in rural areas. These fears were believed to be the cause of an unwillingness to consider a future rural career, or even to trial a teacher education incentive program. Other studies (Collins, 1999; Hudson & Hudson, 2008; McClure, Redfield & Hammer, 2003) indicated further reasons for rural staffing shortages due to teachers’ (both pre-service and in-service) beliefs about geographical, social, cultural, and professional isolation; inadequate housing; and a lack of preparation for rural multi-age classrooms.

Classroom burnout appeared to trigger an exodus from rural classrooms as reported in an Australian newspaper: “Younger teachers point to issues such as overwork, pay structures, being put on contract without assurance of permanency,
community expectations, student management and lack of social status” (The Age as cited in Hudson & Hudson, 2008, p. 67) as reasons for leaving rural areas.

Further research undertaken by Starr and White (2008) indicated that beginning teachers in rural schools and communities were more likely to deal with real and imagined perceptions of personal and professional isolation and questions about access to professional learning and teaching resources, than their urban colleagues. Work conditions such as increased levels of visibility in the community; requirements to teach ‘out of area’, and early professional advancement to positions of leadership without preparation at an earlier stage in their careers all appeared to result in considerable personal and professional demands on them as teachers for which they identified they were not always prepared. Each of these studies highlights some of the differences for teachers working in rural communities and signifies that the design of teacher education curriculum needs to better equip graduates for these diverse contexts. Halsey (2005) urgently recommended teacher education programs to develop policies to increase significantly the number of pre-service country teaching placements with the view that this might encourage beginning teachers to consider a rural career. Rural practicum however is only one component of a teacher education program and to seriously address teacher shortage and staffing churn, White and Reid (2008) argued for a closer connection between the course work and the practicum itself requiring teacher educators to take responsibility for the periods of preparation before and after the rural practicum.

Pre-service Surveys
Alongside the literature review, pre-service teacher surveys (n=263) and teacher educator interviews (n=30) also informed the RRRTEC resource development. Pre-service students who completed a rural placement (August 2008 - December 2010) as part of their degree were invited to complete an online survey. The survey instrument was designed to investigate the views of how well prepared the pre-service teachers were to complete the practicum by their teacher education program and what improvements could be made. The survey analysis revealed that pre-service teachers wanted more information about how to build and sustain relationships with parents and other professions beyond the classroom and the school and into the community and they wanted to know more about meeting the needs of learners in multi-age settings. They wanted more information about the places they were going to and how to cope in a highly visible profession. They also wanted more time to share, debrief and discuss with their lecturers and their classmates about what they had learnt about teaching from the experience. They wanted more strategies about working with diverse learners, particularly indigenous students. The survey responses supported the earlier study by Halsey (2005) and it was clear that any subsidies were not sufficient full cost recovery for the students. The majority who went to a rural school placement described wanting to try a different location and experience.

Although the surveys revealed more that could be done from the teacher education program they also strongly indicated that a successful rural practicum experience led to the graduate thinking positively about applying for a rural placement. Unfortunately, the survey numbers revealed only small percentages of all pre-service teachers taking up a rural practicum opportunity.

Semi-structured Teacher Educator Interviews
The third source of data used by the RRRTEC project were semi-structured interviews of teacher educators across Australia (n=30). A number of teacher educators responded positively to the invitation to participate in the study but expressed that they felt ill equipped to respond to the questions. Interviews were conducted between 2010 and 2011. The interview questionnaire featured seven open-ended items exploring questions such as:

- What do you think are the distinctive features of preparing a student teacher for a rural career?
- Where in your teacher education course (if any) do you believe rural curriculum should be embedded?
- What would you see as key or essential content to learn about if you knew your student teacher were to take a rural teaching position?
- What are the professional learning needs of teacher educators to deliver a rural teacher education curriculum?

Responses revealed two distinct groups. The first comprised a group of teacher educators who felt they were able to discuss the needs of rural teachers, usually based on their own experiences and because they had taught in rural settings themselves; the second group of teacher educators described themselves with no rural experience or knowledge from which to draw and who described themselves as ill-equipped to respond to the questions as a whole although they attempted to. This clear lack of teacher educators’ ability to respond to the questions and discuss the needs of rural students meant that the number of interviews were limited and highlights the need for more professional learning for teacher educators about rural and regional communities.
From those teacher educators who were able to respond comprehensively to the questions, the findings that emerged from the interviews were similar to those from the pre-service survey data: Interviewees recognized the important work of rural teachers in their communities. A number of teacher educators had created resources to better prepare their students for thinking about a rural placement. Some teacher educators had developed rural and remote field trips and simulations; others had created videos to showcase the views of beginning rural teachers. The interview data about successful strategies proved a valuable tool when it came to collating resources to be housed within the RRRTEC website.

Identifying Themes

Key themes of the differences of working in rural and regional contexts emerged from across the data sources. Understanding the knowledge and skills required to work in a particular rural place appeared vital for new graduates’ preparation. The visibility of teachers working in a smaller town was also identified in the data. As Reid et al. (2009) observed, “the reality and nature of working in rural communities is that the distances between towns and settlements means teachers must live alongside or close to the children and families that they serve” (p. 3). Survey responses highlight the need for pre-service teachers to be better prepared and equipped to understand the very public face of a teacher working in a small town. One respondent noted:

They [future teachers] need to realise that when they are going into a rural community or a remote community, it can be very small and very different from living in a large metropolitan area where they can blend in and live in one suburb and go and teach in another and no-one necessarily knows anything about their life. In a rural community, student teachers are basically in the eyes of the community all the time so they have to be very professional in what they do both socially and professionally.

Pre-service teachers need to know that rural communities perceive rural teachers as leaders earlier on in their careers than their urban colleagues. Thus, teachers in rural areas must view themselves as leaders within the community as well as have the ability to communicate with a range of different ‘stakeholders’ in a language that can break down rather than create barriers to educational choice and opportunity. The rural school is often identified as the traditional heart of its community; often it operates at the focus point of external economic and social influences, as well as political requirements for change and renewal. Therefore, the rural school frequently functions as the barometer of community well-being (Halsey, 2005). Further, Halsey notes the school is often the largest organization in a town or area, and thus it is often “strategically positioned to be a rallying agency when the town feels under pressure, providing a sense of connection to the past, present, and the future” (p. 6). Understanding place and community are therefore important answers to the question what knowledge is of most worth in preparing teachers for rural communities? Teachers who want to be successful in a rural/remote context need to be prepared to teach students from different socio-economic and cultural backgrounds to themselves. They need to approach the decision to teach in a rural community by looking at the benefits of the community rather than from a deficit viewpoint (Thompson, 2002). They need to acknowledge and match learning experiences that significantly build on the rich and diverse lives of rural and regional students; to be prepared to teach different developmental stages and ages in any one learning experience or classroom setting. Rural teachers also need to know how to work in teams using technology to develop their own professional learning. While all of these skills, understanding, and knowledge might arguably be necessary for all teachers, their value is increased for those who work in rural, regional and remote contexts.

Developing the Conceptual Framework

The data analysis and themes revealed that teacher education programs require a curriculum developed with an understanding of diversity of contexts, including an understanding of rurality and all that it means in terms of living and working in different rural, remote and regional places and contexts. Based on the rich array of studies and data collection and analysis from both TERRAnova and RRRTEC, as well as from close consultation with the reference group of RRRTEC, which included fellow academics, practitioners and policy makers, a conceptual framework was developed (White, 2010).

The conceptual framework developed highlighted that the preparation of (rural) teachers needed to encompass three overlapping fields of the classroom, school and community. In each field a focus on the teachers’ work and the student learning is important. This working framework in turn underpinned the module and resource development.

The current focus on classroom readiness alone clearly is problematic in preparing teachers to work in rural schools and their communities. The heavy focus on classroom preparation that permeates current models of teacher education is at
odds with a broader view of teaching that locates the work of a teacher in the wider school community. Prospective teachers for rural areas need to develop a tri-focus, that is, an understanding of the links between the classroom, the school, and the wider rural community and their place across these three different contexts—a different set of issues from those that the traditional model of a teacher education and professional experience currently provides.

Creating the RRRTEC Resource

Using the conceptual framework of the fields of classroom, school and community, five areas were selected to focus on. A range of strategies related to how to work collaboratively with colleagues, school support staff, other professionals and community-based personnel to enhance student learning and wellbeing in rural and regional communities were then developed. The five areas are:

1. Experiencing rurality
2. Community readiness
3. Whole school focus
4. Student learning and the classroom
5. Preparing for a rural career

Each focus area is described in the website and is unpacked in terms of key theories and concepts for teacher educators to consider in their classroom teaching. The model of the rural social space (Reid et al., 2010) which has been developed as part of the TERRAnova project for example is provided under the focus area of ‘Experiencing rurality’. The rural social space model can inform how pre-service teachers can think about places to which they are going from the three aspects - demography, geography and economy. A series of resources is also provided in each area for example film clips of rural teachers discussing their place, to photographs and images of different rural places, to virtual and simulated places on the website. All are offered for teacher educators to show their students how they can learn about diversity of place and how they might prepare pre-service teachers to find out more about a rural location they might be placed to.

The curriculum writing team used the themes and areas to develop a series of modules (activities and resources) and outcomes for pre-service teachers. The modules collectively aim to prepare pre-service teachers to:

- know, understand, and appreciate how community change and renewal impacts upon rural and regional education.
- know, and understand historical and contemporary issues and policies related to educational provision, specifically with regard to the employment and retention of teachers in rural and regional contexts.
- know about, understand, and have considered strategies to access information relating to community and school roles and expectations in rural and regional contexts.
- know about, understand, and have considered strategies to work and live successfully in a rural or regional context.
- know about and have strategies to work collaboratively with colleagues, school support staff, other professionals and community-based personnel to enhance student learning and wellbeing in rural and regional contexts.
- appreciate the opportunities and challenges of teaching in rural and regional contexts.

The areas and modules are briefly outlined below.

1. **Experiencing Rurality**
   Module 1 - Understanding rurality

2. **Community readiness**
   Module 2 - Understanding place

3. **Whole school focus**
   Module 3 - Understanding rural teacher identity and teachers’ work
   Module 4 - Understanding working with rural and regional communities

4. **Student learning and the classroom**
   Module 5 - Getting to know rural students’ lives
   Module 6 - Professional Experience: Modes - Guest speaker, Remote contact, Simulation and scenario, Site visits, Field trips and Practicum

5. **Preparing for a rural career**
   Module 7 - Advice for working rural/regional settings

Each module draws from theory and provides practical activities. For example, as the data highlight, further concepts such as teacher identity, leadership, and professional learning are important in thinking through how rural teachers connect with their colleagues both within the whole school context, across schools, and within their communities. It appears imperative from the data sources that there is an emphasis on leadership skills and an ability to communicate across sectors. As professional learning opportunities are reported
to be more difficult for rural and regional teachers due to access and geographic isolation, a more explicit teacher education curriculum that prepares graduates to mobilise their own professional learning by working closely with teacher and community mentors and requires the use of technology to support professional learning is needed. In Module 3, 4 and 7 these concepts are explored in teaching scenarios.

A series of modes within Module 6, Professional experience, has also been developed. The modes refer to different approaches to experience learning about rural places, for example field trips, simulations and scenarios, or listening to guest speakers. While the physical experience of completing a rural practicum cannot be replaced, a series of modes of learning have been offered to provide teacher educators with different ways to assist pre-service students learn about rural teaching. One mode, for example, provides short film clips of experienced rural principals providing advice for future rural teachers on working and living in rural communities. Another mode focuses on simulations in order to connect coursework to the practicum. All resources such as the film clips and simulations have been designed to be quickly accessible and linked to each mode via the website in university classrooms.

Conclusion

This paper has documented the development of a teacher education curriculum package to better prepare teachers for rural communities. The different phases of the study show the rich theoretical and conceptual development on which the curriculum modules, modes, and teaching resources were created. The next phase of the work will focus on the professional learning of teacher educators to know about the resource and have the opportunity to use the materials in their classrooms.

The website is newly launched and it is hoped that further activities and resources will be added over time. The authors of this paper are keen to hear about how the website is used and what improvements can be made by those interested scholars and researchers in all countries. This can be done by going to the website www.rrtec.net.au and completing the survey link on the bottom left corner of the homepage.

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submitted for inclusion in the Symposium on Education Practice and Rural Social Space, Rural Education SIG, AERA Annual Conference, Denver, Colorado, USA.


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Acknowledgments
The RRRTEC project has been supported by the Australian Teaching and Learning Council (ALTC).

The RRRTEC Team
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