



Published in final edited form as:

J Career Assess. 2012 February ; 20(1): 71–87. doi:10.1177/1069072711420105.

Educational Barriers of Rural Youth: Relation of Individual and Contextual Difference Variables

Matthew J. Irvin,

University of North Carolina at Chapel Hill

Soo-yong Byun,

University of North Carolina at Chapel Hill

Judith L. Meece, and

University of North Carolina at Chapel Hill

Thomas W. Farmer

Pennsylvania State University

Abstract

The purpose of this study was to examine the relation of several individual and contextual difference factors to the perceived educational barriers of rural youth. Data were from a broader national investigation of students' postsecondary aspirations and preparation in rural high schools across the United States. The sample involved more than 7,000 rural youth in 73 high schools across 34 states. Results indicated that some individual (e.g., African American race/ethnicity) and contextual (e.g., parent education) difference factors were predictive while others were not. Extensions to, similarities, and variations with previous research are discussed. Implications, limitations, and suggestions for future research are also discussed.

Keywords

rural; educational barriers; individual differences; contextual differences; high school

It is important to study perceived educational barriers as these can prevent youth from formulating or pursuing particular postsecondary aspirations (Lent, Brown, & Hackett, 1994). Furthermore, identifying individual differences in perceived barriers is especially important among youth that may encounter difficulties in reaching their postsecondary goals (Brown & Lent, 1996; Lent et al., 1994; Luzzo & McWhirter, 2001). One problem apparent in the literature examining perceived barriers and individual differences in these is that studies have largely not involved rural youth (Ali, McWhirter, & Chronister, 2005; Kenny et al., 2003; Lent et al., 2002; Luzzo & McWhirter, 2001; McWhirter et al., 2007). This is noteworthy as over 50% of U.S. public school districts and 10 million students are rural (Johnson & Strange, 2007; Provasnik et al., 2007). In addition, research suggests that rural youth experience challenges in reaching their postsecondary goals. Specifically, rural youth are increasingly aspiring to obtain a college degree (Meece et al., 2010) but they are less apt to complete college (Kusmin, 2007; Provasnik et al., 2007). Accordingly, the current study was undertaken to identify which individual difference factors are related to the perceived educational barriers of an understudied population, rural youth. As there is also tremendous

diversity across rural schools and communities in several contextual factors that are likely central to youth's perceived educational barriers (Coladarci, 2007; Johnson & Strange, 2007; Kannapel & DeYoung, 1999; Singh & Dika, 2003), the relation of contextual difference factors to rural youth's perceived educational barriers was also examined. Toward these ends, this study involved a large and diverse sample of rural youth.

Theoretical Perspective of the Study

Social cognitive career theory (SCCT) (Lent et al., 1994; Lent et al., 2002) is perhaps the most prominent framework delineating the key factors and processes by which individuals develop and pursue postsecondary goals. Though in name SCCT may seem to focus on career development only, SCCT was intended to and continues to be applied to academic development (Lent et al., 1994; Lent, Sheu, Singley, Schmidt, Schmidt, & Gloster, 2008). Specifically, SCCT integrated concepts from several models of academic and career behavior as these depicted similar processes. In addition, academic development is inherently related to career development.

SCCT postulates complex and bidirectional interrelations between cognitive (e.g., self-efficacy), behavioral, and contextual variables over time. SCCT posited and subsequent research examined perceived barriers in individuals' educational and vocational development (Lent, Brown, & Hackett, 2000). According to Lent et al. (1994), barriers are *contextual determinants* that affect educational and career development via their proximal role in crucial decisions (e.g., choosing whether going to or what studying in college). Nonetheless, barriers should not influence individuals' behavior unless they are viewed as such. Accordingly, studying *perceived* barriers is vital, particularly for those who may encounter difficulties reaching their goals. In fact, Lent et al. (1994) indicated that gender and ethnic/racial differences in career outcomes are likely due to differences in perceived barriers.

Previous Research on Perceived Educational Barriers

Previous research on perceived barriers has followed two distinct lines. The first line of research on perceived educational barriers has examined whether perceived educational barriers predict various outcomes and the underlying processes. For example, perceived educational barriers predict high school student's career aspirations, school engagement, and vocational/educational self-efficacy beyond other key variables in the SCCT (e.g., Ali, McWhirter, & Chronister, 2005; Kenny et al., 2003). However, the findings from such studies are mixed (e.g., Lent et al., 2000; McWhirter et al., 1998; McWhirter, Torres, Salgado, & Valdez, 2007). In terms of underlying processes, path analyses by McWhirter et al. (1998) suggested that several variables were related to the educational plans of Mexican American high school girls through their effect on perceived barriers. Some research along this line has recently begun to involve rural youth and results have likewise been mixed. For example, Ali and McWhirter (2006) showed that perceived educational barriers predicted the educational expectations of rural Appalachian youth in high poverty areas (see also Ali & Saunders, 2006). Wettersten et al. (2005) found that perceived educational barriers were not predictive of academic outcome expectations among Midwestern rural youth. These results suggest that the role of perceived educational barriers may vary across rural youth and support the need to involve a diverse sample of such students.

The second line of research on perceived barriers has examined individual differences. Perceived barriers are central to postsecondary attainment as these can prevent youth from pursuing their aspirations and interests (Brown & Lent, 1996; Lent et al., 1994). Therefore, identifying individual differences in perceived barriers is especially important for youth

(e.g., women; ethnic/racial minorities) that may encounter difficulties in reaching their postsecondary goals (Lent et al., 1994; Luzzo & McWhirter, 2001). Studies in this second line have primarily focused on gender and ethnic differences, with several finding that girls and ethnic/racial minorities perceive more barriers (e.g., Luzzo & McWhirter, 2001; McWhirter, 1997; McWhirter et al., 2007; Swanson, Daniels, & Tokar, 1996), though results are not consistently apparent with respect to gender (e.g., Kenny et al., 2003; Luzzo & McWhirter, 2001; McWhirter, 1997).

Importance of Rural Sample

Previous research on individual differences in perceived barriers has not involved a diverse sample of rural youth. That is, most studies examining perceived barriers have included White college students (Ali et al., 2005; Kenny et al., 2003; Lent et al., 2002; Luzzo & McWhirter, 2001; McWhirter et al., 2007). In addition, several findings indicate that the poverty encountered by many rural youth substantially increases their risk for educational problems (Crosnoe, Mistry, & Elder, 2002; Farmer, Dadisman, et al., 2006; Johnson & Strange, 2007; Roscigno & Crowley, 2001). For example, youth attending low income rural schools are four times less likely to meet Adequate Yearly Progress than other rural youth (Farmer, Leung, et al., 2006). Particular rural youth (i.e., impoverished) also have the highest dropout rates in the country. Urban youth have high rates, but impoverished rural students dropout at more than twice the national average (Provasnik et al., 2007). Finally, rural youth have lower educational aspirations and are less apt to complete college than their urban counterparts (e.g., Haller & Virkler, 1993; Kannapel & DeYoung, 1999; Kusmin, 2007; Provasnik et al., 2007; Rojewski, 1999).

Several factors likely contribute to rural youth's lower aspirations (Ali & McWhirter, 2006). The type of work that has historically provided most of the jobs in rural communities (e.g., service, labor, mining, and agriculture) typically requires little or less postsecondary education (Crockett, Shanahan, & Jackson-Newsom, 2000; Elder & Conger, 2000; Farmer, Dadisman, et al., 2006). Many rural students, particularly rural youth from ethnic minority backgrounds, also face limited economic resources as poverty rates are higher in rural areas (Lichter & Johnson, 2007), and several have found a negative relationship between low socioeconomic status and rural youth's educational aspirations (e.g., Haller & Virkler, 1993; Hansen & McIntire, 1989; Rojewski, 1999).

In rural areas, geographic isolation can combine with social and cultural norms to also constrain youths' educational aspirations (Duncan, 2001; Farmer, Dadisman, et al., 2006; Hardré & Sullivan, 2008; Roscigno & Crowley, 2001). Specifically, if rural youth in isolated areas want to pursue postsecondary education they often need to move because of fewer local educational opportunities. Strong preferences to stay near family and the supportive ties exemplifying many rural schools and communities can make moving stressful (Elder, King, & Conger, 1996; Hektner, 1995). Thus, rural students may lower their educational aspirations and pursue more limited postsecondary opportunities nearby in order to maintain these connections and supports (Ali & Saunders, 2006; Hektner, 1995; Hardré & Sullivan, 2008; Rojewski, 1999). In other words, having to move away and not wanting to leave friends or other supportive ties may be educational barriers for rural youth. Some rural communities are also less interested in goals and amenities that are considered more modern and rural communities may be protective against outside influences including education (Ali & Saunders, 2009; Howley, Harmon, & Leopold, 1996).

The lack of institutional supports can additionally hinder rural youths' educational aspirations (Duncan, 2001; Farmer, Dadisman, et al., 2006; Hardré & Sullivan, 2008; Roscigno & Crowley, 2001). Participation in school activities may improve students'

educational aspirations and be especially important for youth that struggle to maintain a positive view of school (Finn, 1989; Mahoney, Larson, Eccles, & Lord 2005). Yet, many rural schools have difficulties providing school activities due to, for example, financial limitations, extended travel distances, and a lack of public transportation (Farmer, Dadisman, et al., 2006; Hardré, Crowson, Debacker, & White, 2007; Mahoney et al., 2005). In addition, completing advanced coursework predicts college enrollment more than family and academic background (Lee & Ready, 2009; Schneider, Swanson, & Riegler-Crumb, 1998). However, national reports indicate that rural youth have less access to advanced high school courses (Planty, Provasnik, & Daniel, 2007), which stems from the challenges (e.g., geographic isolation, low salaries, and limited resources) rural schools have attracting and retaining teachers to teach advanced courses (Monk, 2007). Several studies also indicate that rural youth are less likely to have access to guidance counselors and engage in postsecondary preparation activities, such as college campus visits and career exploration (Griffin, Hutchins, & Meece, in press).

Individual and Contextual Differences

Despite the previously discussed generalities characterizing rural youth, there is also tremendous diversity across rural students, schools, and communities (Coladarci, 2007; Kannapel & DeYoung, 1999; Singh & Dika, 2003). Perhaps this is most readily evident in terms of poverty. Poverty is more prevalent in rural areas, where it is long lasting and intergenerational (Lichter & Johnson, 2007; Provasnik et al., 2007). In fact, the majority of persistently poor counties are rural (Lichter & Johnson, 2007). Yet, there is also variance across geographic regions. Specifically, the Appalachia, Mississippi Delta, and southern Black Belt regions have the highest rates of childhood poverty across rural areas and the country as a whole (Johnson & Strange, 2007). Moreover, the most consistent and severe poverty has been in the rural South (Lichter & Johnson, 2007; Tickamyer & Duncan, 1990). Rural poverty is also differentially distributed across individuals of various ethnic/racial backgrounds within rural areas. Specifically, African American families have the highest rates and chronic patterns of poverty among rural families (Jolliffe, 2002; McLoyd, 1990). In fact, the poverty rate among rural African American families is nearly twice that of rural White families. Furthermore, poverty is particularly high for African Americans in the rural Deep South (Brody, Dorsey, Forehand, & Armistead, 2002).

These economic conditions produce staff shortages and other constraints. In turn, the programs and activities rural schools in high poverty areas may provide to prepare students for pursuing their postsecondary aspirations is often restricted (Ali & Saunders, 2006; Farmer, Dadisman, et al., 2006; Hardré et al., 2007). This could include, for example, limited counseling services to identify, information sessions about, and opportunities to visit colleges. Such poverty and geographic isolation also manifest in a narrow curriculum and a shortage of teachers with advanced degrees (Haller & Virkler, 1993; Lowe, 2006; Monk, 2007). Consistent with this, students in rural schools have the least opportunity to take AP courses (Planty, Provasnik, & Daniel, 2007). These factors may lead some rural youth (e.g., in high poverty areas) to report more educational barriers. For example, these constraints could include receiving little information about postsecondary schools or inadequate academic preparation.

Purpose and Aims of the Study

The previously reviewed literature indicated that considering both individual and contextual difference factors in relation to rural youths' perceived educational barriers was warranted. In addition, such research should include diverse rural students across distinct areas as their characteristics and contexts vary. Accordingly, the purpose of this study was to investigate

the relation of several individual and contextual difference factors to perceived educational barriers among a diverse sample of rural high school students. Toward that end, three specific research aims guided this study.

The first aim was to describe the perceived educational barriers of rural youth. The second aim was to determine if the items assessing perceived educational barriers formed a single composite. As previous research has consistently found that various measures of perceived barriers comprise a single factor (e.g., McWhirter, Rasheed, & Crothers, 2000; McWhirter et al., 2007), it was expected that the items included in this study would as well. The third aim was to investigate which individual and contextual difference factors uniquely related to perceived educational barriers. As research to date has not considered several of the variables we examined, it was again difficult to outline concrete expectations. In addition, some studies have shown that girls (e.g., McWhirter et al., 2007) and youth from ethnic/racial minority backgrounds (e.g., Luzzo & McWhirter, 2001) report more barriers. Others have not found gender differences (e.g., Kenny et al., 2003; Luzzo & McWhirter, 2001) or differences related to parent education (McWhirter et al., 2007). However, the study by Kenny et al. (2003) is the only research to consider individual difference factors among rural youth. Thus, drawing broadly on SCCT theory (Lent et al., 1994) we expected that several individual and contextual difference factors would be related to rural youths' perceived educational barriers.

Method

The current study is part of a broader national investigation to examine students' postsecondary aspirations and preparation in rural high schools across the United States. Youth in grades 9–12 were recruited from 70 schools. According to the urban-centric locale codes, 61% of these schools were in *rural remote* areas which were defined as a rural territory that was more than 25 miles from an urbanized area and more than 10 miles from an urban cluster (i.e., densely settled area with a population of 50,000 or more). Approximately 27% of schools were in *rural distant* areas which were defined as a rural territory that was more than 5 miles but less than or equal to 25 miles from an urbanized area (i.e., contains a population of 25,000 to 50,000) or more than 2.5 miles but less than or equal to 10 miles from an urban cluster. Finally, 11% of schools were *towns* which were defined as territories inside an urban cluster. In terms of geographic region, approximately 25% were in the Midwest, 40% in the South, 29% in the West, and 5% in the Northeast. In addition, 36 schools had 50% or more students who were eligible to receive free or reduced lunch and 15 schools had 50% or more students who were identified as ethnic minority. Table 1 provides additional data on the school sample for the current study.

As agreed upon by the university IRB, recruitment and consenting procedures followed participating districts local policies and administrative guidelines. In some districts, active consent procedures were used and parental consents forms were sent home with students. In these schools, students were allowed to participate only if they returned signed parental consents forms (unless they were legally emancipated). In other districts, passive consent procedures were used and consents forms were sent home to parents. If parents did not want their children to participate they were asked to return a signed form indicating this. All participating students also completed assent forms.

Participants

For the current study, the overall sample included 7,076 9th to 12th grade students. Participants included approximately 28% 9th graders, 27% 10th graders, 25% 11th graders, and 20% 12th graders, with approximately equal numbers of female (52%) and male (48%) participants. In terms of ethnicity, the largest ethnic and racial groups included Whites

(66%), Hispanics or Latinos (11%), African Americans (7%), and Asian Americans (4%). Another 12% selected multiple ethnic categories. A majority of participants (63%) lived in their community for over 10 years. Participating students who indicated that they did not know how far in school they most wanted to go (i.e., educational aspiration) were excluded from analyses.

Data Collection Procedures

Following a protocol that has been used with middle and high school students for nearly two decades, data were collected in a group administration format. Consented participants were gathered in the cafeteria and assigned alternating seats such that no student was directly beside or across from another student. They were informed about confidentiality, that they were not required to participate, and that they could withdraw from the study at any time. The instructions for completing surveys and individual items were read aloud by a trained administrator. Additional research staff provided mobile monitoring to assist students. Small group or individual assessments were conducted with students whom teachers identified as having reading or writing difficulties that required these alternatives. Participants received a special pencil.

Measures

Specific measures are briefly described next. Participating students' completed a self-report measure assessing their perceptions of several educational barriers. Data on several individual difference factors in the form of student gender and background were also obtained. Measures of participating students' family background were collected to assess relevant contextual differences related to the family. Several key characteristics of participating students' school and community were gathered from various national databases and included as additional measures of contextual difference variables.

Perceived educational barriers—Participating students were asked whether they were planning to continue his/her education beyond high school. Response options included “No,” “Yes,” and “Not Sure.” If the respondent answered “Yes” or “Not Sure”, he/she was asked how difficult (1 = “not at all” to 7 = “very much”) each of several barriers may make it for him/her to complete his/her education (see items in Table 2). The number of items in our measure was substantially fewer than that in other studies of and scales assessing perceived barriers. In addition, others capture multiple dimensions (i.e., *likelihood*, *magnitude*, and *difficulty*) for the same items (McWhirter et al., 2000, 2007). However, these different dimensions are highly related with correlations ranging from .66 to .91 (McWhirter et al., 2000, 2007). We only asked participating students' to rate how difficult various barriers may make it to complete their education. An exploratory factor analysis (EFA) demonstrated that these items formed a single composite and Cronbach's alpha indicated that internal consistency was .86. More details regarding the scale's properties are provided in the results section.

Using fewer items and a single dimension was necessary as the larger project, from which the data in the current study were collected, contained numerous measures. This was because the purpose of the overall project was to comprehensively describe and examine numerous variables related to the postsecondary aspirations, plans, and preparation of rural youth. Thus, the student-report measure was quite extensive and broad in content, but individual constructs were measured with less depth. This was necessary so that information on the wide array of variables needed to meet the purpose of the overall project could be captured while also keeping the length of surveys reasonable. A similar approach has been utilized by other large-scale studies of this nature (e.g., NELS:88-00, ELS:2002) that are also designed to comprehensively examine numerous relevant constructs among national

samples. Therefore, a limitation of the current study that should be noted when considering the results and implications is that perceived educational barriers were not measured with as much depth and thoroughness as studies with a narrower focus and smaller samples.

The perceived educational barriers items were, in part, selected by conducting a comprehensive review of literature regarding the educational attainment of rural youth. This allowed us to identify key issues and themes that may be barriers for rural youth. Items in previously published scales (e.g., McWhirter et al., 2000, 2007) and some educational barriers items that had been used by research staff in a previous project with rural youth were examined. An initial set of items was then selected. Because these barriers items and several other scales used in the project 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. This panel included individuals with expertise in rural education and youth, adolescent motivation and development, school context and transitions, and preparation for and the transition to early adulthood. 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 high schools before it was used in the study schools. As part of the pilot testing, a group discussion regarding the appropriateness, comprehensiveness, and clarity of all items was undertaken with participating students immediately after they completed the survey. The information gathered from each of these steps in the review process was then used to determine the final set of items.

Student gender and background—Participating students completed several items capturing the following information: grade in at time of data collection, gender, ethnic/racial background, and whether English was native language. The grade level students' were in at the time of data collection was obtained from an item asking students' "What grade are you currently in?" Response options included "9th," "10th," "11th," or "12th." A self-report item asked participants to indicate whether they were female or male. A dummy variable was created to indicate each students' gender (1 = female, 0 = male). Students were asked to select one or more of the following to best describe their racial or ethnic background: "White," "Black/African American," "Hispanic or Latino/Latina," "Asian," "American Indian or Alaska Native," "Native Hawaiian or other Pacific Islander," or "Other." Dummy variables were created to indicate whether participating students' racial/ethnic background was African American or Hispanic/Latina(o) (White was the reference category). As few rural youth marked the remaining options, another dummy variable denoting the participating student was from some other racial/ethnic background was also created.

Family context—Two measures of the family context were collected and included parent education and family economic hardship. Participating students indicated the highest level of education their mother/female guardian and father/male guardian had received (1 = "did not finish high school" to 7 = "completed a Ph.D., M.D., or other advanced professional degree"). Family economic hardship was assessed using 3-items adapted from multiple sources (i.e., Conger, Conger, Matthews, & Elder, 1999; Elder, Eccles, Ardel, & Lord, 1995; Wadsworth & Compas, 2002). This measured asked how often (1 = "never" to 5 = "all the time") their family had "difficulties paying bills," "buying important items," and "buying things the family wants or needs." These items were similar to measures of financial hardship in anti-poverty intervention research (Huston et al., 2001) and studies of rural families (e.g., Conger et al., 1999; Elder et al., 1995). Items were coded such that a higher score indicated more family economic hardship. An exploratory factor analysis indicated these items formed a single composite accounting for 81% of the variance. A confirmatory factor analysis (CFA) yielded a RMSEA of .50, indicating that the model was not a good fit of the predicted structures for the data. However, the NFI and CFI were both

acceptable with values of 1.00 each. Cronbach's alpha demonstrated that internal consistency reliability was .88. Standardized item loadings ranged from .81 to .91.

School and community context—Small Rural School Achievement (SRSA) and Rural Low Income School (RLIS) designations were identified from online eligibility files of districts qualifying for the federal government's Rural Education Achievement Program (REAP). These designations were used in the current study to identify small rural schools (i.e., SRSA) as well as low income rural schools (i.e., RLIS). SRSA districts have fewer than 600 students, a county with fewer than 10 people per square mile, and are a metro-centric locale code 7 (i.e., *rural outside a Metropolitan Core Based Statistical Area* which is any place or territory not within a metropolitan or micropolitan area and defined as rural by the Census Bureau) or a locale code 8 (i.e., *rural inside a Metropolitan Core Based Statistical Area* which is any place or territory within a metropolitan area and defined as rural by the Census Bureau). RLIS districts have at least 20% of students from families with incomes below the Federal poverty line and each school is in a local code 6 (i.e., *small town* which is an incorporated place with a population less than 25,000 but greater than or equal to 2,500 and located outside or inside a metropolitan or micropolitan area), locale code 7, or locale code 8. Dummy variables were created to indicate whether a school was eligible for the RLIS or SRSA program. Information on additional characteristics of participating students' school was obtained from the NCES Common Core of Data and this included characteristics of the student body including the percent of students eligible for free lunch and from a minority background. These data were highly skewed. Therefore, dummy variables were constructed to capture if more than 50% of students received free lunch or were from a minority background. Finally, the schools were identified as being from one of the following four geographic regions recognized by the U.S. Census Bureau: South, West, Northeast, and Midwest. Dummy variables were created to represent the first three with Midwest region serving as the reference category.

Analysis Plans

Descriptive statistics were obtained to address the first aim guiding the study. Exploratory factor analysis (EFA) was used for the second aim. Following McWhirter et al. (2007), the EFA involved a principal components analysis with varimax rotation. Multiple regression analysis was used to address the third aim. As participating students were nested in rural schools across the U.S., preliminary analyses involving a fully unconditional hierarchical linear model (HLM) were undertaken (Raudenbush & Bryk, 2002). The intraclass correlation coefficient (ICC) indicated that less than 1% of the variance in educational barriers was between schools (i.e., ICC less than .01). Thus, the use of HLM was not warranted as there was a negligible amount of variance between schools (Raudenbush & Bryk, 2002).

Hierarchical multiple regression analysis was then undertaken to determine which individual and contextual difference variables uniquely predicted perceived educational barriers. Hierarchical multiple regression analysis is a form of multiple regression analysis that involves the entry of predictors in a pre-specified order (Cohen & Cohen, 1983; Cohen, Cohen, West, & Aiken, 2003). The order of entry is determined by researchers and reflects some hierarchy. Variables may be entered one at a time or as a set of variables in *steps*. The main advantage of hierarchical multiple regression analysis is the partitioning of unique variance in the dependent variable accounted for by the variables added in each step (i.e., ΔR^2) (for more details see Cohen & Cohen, 1983; Cohen et al., 2003). If model statistics indicate that a step accounts for some additional unique variance (i.e., significant $F\Delta$), then results suggest that including that step and corresponding variables provide more predictive power. In the current study, the individual difference variables of student gender and

background were entered in Step 1. The grade participating students were in at the time of data collection was also included in Step 1. The contextual difference variables (i.e., family context measures and characteristics of the school and community context) were entered in Step 2. The individual difference variables were entered in Step 1 as these capture more proximal factors that may affect perceived educational barriers and were followed by the contextual difference variables in Step 2 as these measures more distal factors.

Results

The following sections summarize the results for each of the research aims. Each section corresponds with the research aims guiding this study.

Descriptive Analyses

The first aim was to initially describe the perceived educational barriers of rural youth. The results are summarized in Table 2. To describe participants' responses, we obtained the percentage of students that marked the two highest points on the scale assessing how difficult each barrier would make it complete their education (1 = "not at all difficult" to 6 = "very much"). Getting married was the barrier that rural youth most often indicated would make it difficult to complete their education beyond high school. The next most difficult perceived educational barrier for rural youth involved the need to help or support their family. Finally, not wanting to leave their friends was third most difficult barrier. Overall, results suggest that a majority of rural youth did not perceive that any one educational barrier would make it difficult to complete their education. That is, those indicating that each perceived educational barrier was difficult ranged from 20.5% to 28.7%.

Exploratory Factor Analyses

The second aim was to determine if the perceived educational barriers items formed a single composite. The results from the principal components EFA with varimax rotation are summarized in Table 3. The items loaded on one component only. Factor loadings were high and ranged from .59 to .77. The single composite accounted for approximately 48% of the variance in the items. Cronbach's alpha indicated that internal consistency was .86.

Multiple Regression Analyses

The third aim was to investigate which individual and contextual difference factors uniquely related to and predicted rural youths' perceived educational barriers. The correlation matrix and descriptive statistics are presented in Table 4. The results from the hierarchical regression analysis are summarized in Table 5. As the results from the EFA demonstrated that the perceived educational barriers formed a single dimension, the dependent variable in this analysis was created by summing participating students' responses across these items. The variables entered in Step 1 accounted for 2.5% ($R^2 = .025$ and adjusted $R^2 = .024$) of the variance in educational barriers, $F\Delta(10, 4432) = 42.70, p < .001$. Specifically, results indicated that the grade participants were in was predictive such that as rural youth get older they perceived fewer educational barriers. Female gender was not related. However, rural youth from an African American and Hispanic/Latino(a) background perceived more barriers. Likewise, rural youth whose native language was not English perceived more barriers. The variables entered in Step 2 accounted for 2.9% ($R^2 = .053$ and adjusted $R^2 = .051$) of additional variance, $F\Delta(10, 4422) = 42.70, p < .001$. With the addition of these contextual difference variables, only African American and Hispanic/Latino(a) background continued to predict perceived educational barriers. Mother's and father's education were both predictive such that lower levels of parental education related to more perceived barriers and vice versa. Family economic hardship was also predictive, with higher levels of

hardship relating to more educational barriers. The other contextual difference variables were not predictive.

Discussion

This study is, to our knowledge, the first to examine barriers to postsecondary education in a diverse sample of students that are less likely to complete college, rural high school youth. Unlike previous research which has found gender differences in the perceived barriers of non-rural youth (e.g., McWhirter, 1997; McWhirter et al., 2007; Swanson et al., 1996), results in the current study largely did not find that gender predicted perceived educational barriers among rural youth. However, some studies have also not found gender differences (e.g., Luzzo & McWhirter, 2001) including the only other such study with a sample of rural youth (Kenny et al., 2003).

Results were consistent with previous research indicating that there are ethnic/racial differences in perceived barriers among non-rural youth (e.g., Luzzo & McWhirter, 2001; McWhirter, 1997; McWhirter et al., 2007; Swanson et al., 1996). Our findings extend these studies by demonstrating that rural youth from African American and Hispanic/Latino(a) backgrounds likewise perceive more educational barriers. The grade participating students were in at the time of data collection was also strongly predictive. This is important as it suggests that efforts to mitigate such barriers may need to be provided for rural youth during the early years of their high school career. Some caution is warranted though as this may in part be an artifact as struggling rural youth may no longer be in school by their junior or senior year. That is, rural youth with academic or other difficulties may have dropped out by that time.

Though rural schools and communities are diverse, there was not any variation in educational barriers across schools or differences related to the characteristics of participants' school or community (e.g., SRSA, RLIS, geographic region). However, the family context of rural youth was predictive. Specifically, we demonstrated that parent education was related to differences in perceived educational barriers. This was different from the findings of McWhirter et al. (2007) who found no differences stemming from parent education. In addition, our results indicated that family economic hardship was associated with perceived educational barriers. Furthermore, this contextual difference factor was one of the variables that most strongly predicted barriers for rural youth.

Limitations

Though this study is significant in the examination of barriers to postsecondary education among a diverse sample of rural students, there are limitations. Perhaps most important is that definitive causal conclusions are inappropriate given the correlational and cross-sectional design of this study. In other words, the direction of and causal effects cannot be determined especially as data were collected at only one point in time. In addition, it is likely that the individual and contextual difference factors examined do not cause perceived barriers. Rather, there are other variables which may mediate the relation of such factors to educational barriers. Clarifying this underlying process would be helpful.

There are other limitations that stem from measurement issues. For one, we did not examine the complimentary constructs of supports (Lent et al., 2000). In fact, some have indicated that supports may be more important than barriers (Brown & Ryan Krane, 2000; Brown et al., 2003). As noted earlier, perceived educational barriers was also measured with less depth. This was necessary as the large-scale project that provided the data for the current study was designed to comprehensively examine many constructs relevant to participants' aspirations and preparation for early adulthood among a national sample of rural youth.

Consequently, the more narrow assessment of perceived educational barriers in our project should be considered when interpreting the results of and deriving implications from this study. In particular, it is important to acknowledge that rural youth likely perceive other educational barriers we did not include. However, given the design of the larger project our purpose in measuring perceived educational barriers was not to capture information on or to provide insight into every possible barrier. Rather, we sought to obtain a sampling of perceived educational barriers so that we could identify the factors that predict and implications of different levels in these barriers. Consideration of other barriers may be especially important among practitioners so that they may more effectively identify and address students' perceived educational barriers.

Finally, it is also worth noting that the overall variance explained by the individual and contextual difference variables included in this study was small. Furthermore, the large sample size was likely a factor to at least some degree in detecting the relations that were found. As the amount of variance explained was small, the relation of these individual and contextual difference variables may not be practically meaningful. Nonetheless, these results also have important implications in other respects.

Implications

On the one hand, several variables were associated with educational barriers that may be important for intervention efforts and policy. Specifically, these results suggest that efforts to help rural youth overcome barriers or pursue their postsecondary educational goals may benefit from taking a more targeted approach. That is, our results indicate that particular rural youth may need additional efforts (e.g., counseling) in order to appropriately address the educational barriers they may encounter. Specifically, the results of this study suggest that counseling services may need to focus on rural youth from African American or Hispanic/Latino(a) backgrounds as well as rural youth from families with less educated parents and more economically distressed situations. In addition, results suggest that these services should begin earlier in high school.

Clearly, such efforts largely fall within the realm of guidance counselors. In particular, as rural youth enter high school counselors could assess students' educational aspirations and perceived educational barriers. The results for rural students from African American or Hispanic/Latino(a) backgrounds and low-wealth families should be closely reviewed in order to identify students that perceive educational barriers related to their aspirations. If barriers are apparent, then appropriate actions and supports to address those barriers should be developed, especially if they wish to continue their education beyond high school. If barriers are not apparent, then students could be re-assessed at regular intervals (e.g., annually) to monitor whether perceived educational barriers begin to increase. As previously mentioned, when practitioners conduct such assessments including a more comprehensive set of potential barriers may be needed.

If guidance counselors are not able to provide such services for various reasons (e.g., limited resources and time), then rural schools and communities might pool resources to develop programs that connect youth to college graduates within their or surrounding communities. This may also include, for example, career education and mentoring from college students. Indeed, students in rural and small schools are less apt to have access to full-time and certified counselors (U.S. Department of Education, 2003). Furthermore, rural students from minority backgrounds often live in impoverished areas where these types of school resources and community programs that may help youth prepare for the postsecondary years are even more limited (Farmer, Dadisman, et al., 2006). Collectively then, our results and these issues suggest that increasing access to counseling and other relevant services for rural

students that are most likely encounter perceived educational barriers could be an important issue to consider.

On the other hand, our results indicating that the amount of variance in perceived educational barriers explained by individual and contextual difference variables was small and may not be very meaningful is also important. This suggests that there are other factors we did not examine that may account for the substantial amount of unexplained variance in perceived educational barriers. As rural students' background and family economic situation are largely factors counselors cannot affect, in our view these findings are promising. This is because perceived educational barriers may be related to more malleable factors such as self-efficacy. However, additional research is needed to identify other variables that may predict perceived educational barriers and whether there may be causal relations. Perhaps such work may provide targets that are more directly useful for intervention and prevention efforts.

Suggestions for Future Research

Other suggestions for future research are also evident. Future research should utilize longitudinal designs to clarify the process by which individual and contextual difference factors lead to perceived educational barriers. In turn, continuing to determine the degree to which educational barriers may be involved in rural youths' postsecondary attainment via longitudinal research is needed. As the relationship of perceived barriers to outcomes is not consistent or clearly established (Lent et al., 2000; McWhirter et al., 2007), such work may prove quite informative. Examining whether these relations and processes differ for rural and urban or suburban youth could also provide important implications for intervention and policy. That is, such work may help determine if the common one-size-fits-all approach to such educational issues is appropriate. Using the findings in this study within intervention research that provided targeted supports for the rural youth that, according to our findings, perceive more educational barriers is needed as well. Finally, subsequent work with rural youth should also consider the supports that they have from the various sources others have begun to consider such as parent, teacher, sibling, and peer support (e.g., Ali et al., 2005; Wettersten et al., 2005).

Acknowledgments

This work was supported by a Research and Development Center grant (R305A04056) from the Institute of Education Sciences to the National Research Center on Rural Education Support.

References

- Ali SR, McWhirter EH. Rural Appalachian youth's vocational/educational postsecondary aspirations: Applying Social Cognitive Career theory. *Journal of Career Development*. 2006; 33:87–111.
- Ali SR, McWhirter EH, Chronister KM. Self-efficacy and vocational outcome expectations for adolescents of lower socioeconomic status: A pilot study. *Journal of Career Assessment*. 2005; 13:40–58.
- Ali SR, Saunders JL. College expectations of rural Appalachian youth: An exploration of Social Cognitive Career Theory factors. *The Career Development Quarterly*. 2006; 55:38–51.
- Ali SR, Saunders JL. The career aspirations of rural Appalachian high school students. *Journal of Career Assessment*. 2009; 17:172–188.
- Brody GH, Dorsey S, Forehand R, Armistead L. Unique and protective contributions of parenting and classroom processes to the adjustment of African American children living in single-parent families. *Child Development*. 2002; 73:274–286. [PubMed: 14717257]
- Brown SD, Lent RW. A social cognitive framework for career choice counseling. *The Career Development Quarterly*. 1996; 44:354–366.

- Brown, SD.; Ryan Krane, NE. Four (or five) sessions and a cloud of dust: Old assumptions and new observations about career counseling. In: Brown, SD.; Lent, RW., editors. *Handbook of counseling psychology*. 3. New York: Wiley; 2000. p. 740-766.
- Brown SD, Ryan Krane NE, Brecheisen J, Castelino P, Budisin I, Miller M, Edens L. Critical ingredients of career choice interventions: More analyses and new hypotheses. *Journal of Vocational Behavior*. 2003; 62:411–428.
- Burney VH, Cross TL. Impoverished students with academic promise in rural settings: 10 lessons from Project Aspire. *Gifted Child Today*. 2006; 29:14–21.
- Cohen, J.; Cohen, P. *Applied multiple regression/correlation analysis for the behavioral sciences*. Hillsdale, NJ: Erlbaum Associates; 1983.
- Cohen, J.; Cohen, P.; West, SG.; Aiken, LS. *Applied multiple regression/correlation analysis for the behavioral sciences*. 3. Mahwah, NJ: Lawrence Erlbaum Associates; 2003.
- Coladarci T. Improving the yield of rural education research: An editor's swan song. *Journal of Research in Rural Education*. 2007; 22(3) Retrieved February 2, 2008 from <http://www.jrre.psu.edu/articles/22-3.pdf>.
- Conger RD, Conger KJ, Matthews LS, Elder GH Jr. Pathways of economic influence on adolescent adjustment. *American Journal of Community Psychology*. 1999; 27:519–541. [PubMed: 10573833]
- Crockett LJ, Bingham CR. Anticipating adulthood: Expected timing of work and family transitions among rural youth. *Journal of Research on Adolescence*. 2000; 10:151–172.
- Crockett, L.J.; Shanahan, M.J.; Jackson-Newsom, J. Rural youth: Ecological and life course perspectives. In: Montemayer, R.; Adams, G.R.; Gullotta, T.P., editors. *Adolescent diversity in ethnic, economic, and cultural contexts*. Thousand Oaks, CA: Sage; 2000. p. 43-74.
- Crosnoe R, Mistry R, Elder GH Jr. Economic disadvantage, family dynamics, and adolescent enrollment in higher education. *Journal of Marriage and Family*. 2002; 64:690–702.
- Crowley JE, Shapiro D. Aspirations and expectations of youth in the United States: Part 1. Education and fertility. *Youth & Society*. 1982; 13:391–422.
- Duncan, CM. Social capital in America's poor rural communities. In: Saegert, S.; Thompson, J.P.; Warren, M.R., editors. *Social capital and poor communities*. New York, NY: Russell Sage Foundation; 2001. p. 60-86.
- Elder, G.H., Jr; Conger, R.D. *Children of the land: Adversity and success in rural America*. Chicago: University of Chicago Press; 2000.
- Elder GH Jr, Eccles JS, Ardel M, Lord S. Inner-city parents under economic pressure: Perspectives on the strategies of parenting. *Journal of Marriage and the Family*. 1995; 57:771–784.
- Elder GH Jr, King V, Conger RD. Attachment to place and migration prospects: A developmental perspective. *Journal of Research on Adolescence*. 1996; 6:397–425.
- Farmer TW, Dadisman K, Latendresse SJ, Thompson J, Irvin MJ, Zhang L. Educating out and giving back: Adults' conceptions of successful outcomes of African-American high school students from impoverished rural communities. *Journal of Research in Rural Education*. 2006; 21(10) Retrieved February 22, 2008 from <http://www.psu.edu/dept/jrre/articles/21-10.pdf>.
- Farmer TW, Leung MC, Banks J, Schaefer V, Andrews B, Murray RA. Adequate yearly progress in Small Rural Schools and Rural Low-Income Schools. *Rural Educator*. 2006; 27(3):1–7.
- Griffin D, Hutchins BC, Meece JL. Where do rural students go to find information about their careers? *Journal of Counseling and Development*. in press.
- Haller EJ, Virkler SJ. Another look at rural-nonrural differences in students' educational aspirations. *Journal of Research in Rural Education*. 1993; 9:170–178.
- Hansen TD, McIntire WG. Family structure variables as predictors of educational and vocational aspirations of high school seniors. *Research in Rural Education*. 1989; 6(2):39–49.
- Hardré PL. Preventing motivational dropout: A systemic analysis in four rural high schools. *Leadership and Policy in Schools*. 2007; 6:231–265.
- Hardré PL, Crowson HM, Debacker TK, White D. Predicting the academic motivation of rural high school students. *The Journal of Experimental Education*. 2007; 75:247–269.

- Hardré PL, Sullivan DW. Student differences and environment perceptions: How they contribute to student motivation in rural high schools. *Learning and Individual Differences*. 2008; 18:471–485.
- Hektner JM. When moving up implies moving out: Rural adolescent conflict in the transition to adulthood. *Journal of Research in Rural Education*. 1995; 11(1) Retrieved February 22, 2008 from <http://www.jrre.psu.edu/articles/v11,n1,p3-14,Hektner.pdf>.
- Howley CB, Harmon H, Leopold G. Rural scholars or bright rednecks? Aspirations for a sense of place among rural youth in Appalachia. *Journal of Research in Rural Education*. 1996; 12(3):150–160.
- Huston AC, Duncan GJ, Granger R, Bos J, McLloyd V, Mistry R, et al. Work-based antipoverty programs for parents can enhance the school performance and social behavior of children. *Child Development*. 2001; 71:318–336. [PubMed: 11280487]
- Johnson M, Elder GH Jr, Stern M. Attachments to family and community and the young adult transition of rural youth. *Journal of Research on Adolescence*. 2005; 15:99–125.
- Johnson, J.; Strange, M. *Why rural matters 2007: The realities of rural education growth*. Arlington, VA: Rural School and Community Trust; 2007.
- Jolliffe D. Rural poverty at record low in 2000. *Rural America*. 2002; 17:74–77.
- Kannapel PJ, DeYoung AJ. The rural school problem in 1999: A review and critique of the literature. *Journal of Research in Rural Education*. 1999; 15:67–79.
- Kenny ME, Blustein DL, Chaves A, Grossman JM, Gallagher LA. The role of perceived barriers and relational support in the educational and vocational lives of urban high school students. *Journal of Counseling Psychology*. 2003; 50:142–155.
- Kusmin, L. *Rural America at a glance: 2007 edition*. USDA, Economic Research Service; 2007. (Economic Information Bulletin No. EIB-31). Retrieved June 6, 2009 from <http://www.ers.usda.gov/Publications/EIB31/EIB31.pdf>
- Lee VE, Ready DD. U.S. high school curriculum: Three phases of contemporary research and reform. *Future of Children*. 2009; 19:135–156. [PubMed: 21141708]
- Lent RW, Brown SD, Hackett G. Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*. 1994; 45:79–122.
- Lent RW, Brown SD, Hackett G. Contextual supports and barriers to career choice: A social cognitive analysis. *Journal of Counseling Psychology*. 2000; 47:36–49.
- Lent RW, Brown SD, Talleyrand R, McPartland EB, Davis T, Chopra SB, et al. Career choice barriers, supports, and coping strategies: College students' experiences. *Journal of Vocational Behavior*. 2002; 60:61–72.
- Lent RW, Sheu HB, Singley D, Schmidt JA, Schmidt LC, Gloster CS. Longitudinal relations of self-efficacy to outcome expectations, interests, and major choice goals in engineering students. *Journal of Vocational Behavior*. 2008; 73:328–335.
- Lichter DT, Johnson KM. The changing spatial concentration of America's rural poor population. *Rural Sociology*. 2007; 72:331–358.
- Lowe JM. Rural education: Attracting and retaining teachers in small schools. *Rural Educator*. 2006; 27(2):28–32.
- Luzzo DA, McWhirter EH. Sex and ethnic differences in the perception of educational and career-related barriers and levels of coping efficacy. *Journal of Counseling and Development*. 2001; 79:61–67.
- Mahoney, JL.; Larson, RW.; Eccles, JS.; Lord, H. Organized activities as developmental contexts for children and adolescents. In: Mahoney, JL.; Larson, RW.; Eccles, JS., editors. *Organized Activities as Contexts of Development: Extracurricular Activities, After-School and Community Programs*. Mahwah, NJ: Lawrence Erlbaum Associates; 2005. p. 3-22.
- McLoyd VC. Minority children: Introduction to the special issue. *Child Development*. 1990; 61:263–266. [PubMed: 2344776]
- McWhirter EH. Perceived barriers to education and career: Ethnic and gender differences. *Journal of Vocational Behavior*. 1997; 50:124–140.
- McWhirter EH, Hackett G, Bandalos DL. A causal model of the educational and career expectations of Mexican-American high school girls. *Journal of Counseling Psychology*. 1998; 45(2):166–181.

- McWhirter EH, Rasheed S, Crothers M. The effects of high school career education on social-cognitive variables. *Journal of Counseling Psychology*. 2000; 47:330–341.
- McWhirter EH, Torres DM, Salgado S, Valdez M. Perceived barriers and postsecondary plans in Mexican American and White adolescents. *Journal of Career Assessment*. 2007; 15:119–138.
- Monk DH. Recruiting and retaining high-quality teachers in rural areas. *The Future of Children*. 2007; 17:155–174. [PubMed: 17407927]
- Planty, M.; Provasnik, S.; Daniel, B. High school coursetaking: Findings from the condition of education 2007 (NCES 2007-065). U.S. Department of Education; Washington, DC: National Center for Education Statistics; 2007.
- Provasnik, S.; KewalRamani, A.; Coleman, MM.; Gilbertson, L.; Herring, W.; Xie, Q. Status of education in rural America (NCES 2007-040). Washington, D.C: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education; 2007.
- Raudenbush, SW.; Bryk, AS. Hierarchical linear modeling: Applications and data analysis methods. 2. Newbury Park, CA: Sage; 2002.
- Rojewski JW. Career-related predictors of work-bound and college-bound status of adolescents in rural and nonrural areas. *Journal of Research in Rural Education*. 1999; 15:141–156.
- Rojewski JW, Hill RB. Influence of gender and academic risk behavior on career decision making and occupational choice in early adolescence. *Journal of Education for Students at Risk*. 1998; 3:265–287.
- Roscigno VJ, Crowley ML. Rurality, institutional disadvantage, and achievement/attainment. *Rural Sociology*. 2001; 66:268–293.
- Singh K, Dika S. The educational effects of rural adolescents' social networks. *Journal of Research in Rural Education*. 2003; 18(2):114–128.
- Schneider B, Swanson CB, Riegler-Crumb C. Opportunities for learning: Course sequences and positional advantages. *Social Psychology of Education*. 1998; 2:25–53.
- Swanson JL, Daniels KK, Tokar DM. Measuring perceptions of career related barriers: The Career Barriers Inventory. *Journal of Career Assessment*. 1996; 4:219–244.
- Tickamyer AR, Duncan CM. Poverty and opportunity structure in rural America. *American Review of Sociology*. 1990; 16:67–86.
- U. S. Department of Education National Center for Education Statistics. High school guidance counseling. 2003. (NCES Publication No. 2003-015) Retrieved January 10, 2011 from <http://nces.ed.gov/pubs2003/2003015.pdf>
- Wadsworth ME, Compas BE. Coping with family conflict and economic strain: The adolescent perspective. *Journal of Research on Adolescence*. 2002; 12:243–274.
- Wettersten KA, Guilmino A, Herrick CG, Hunter PJ, Kim GY, Jagow K, et al. Predicting educational and vocational attitudes among rural high school students. *Journal of Counseling Psychology*. 2005; 52:658–663.

Table 1

Description of School Sample

School type	Number of schools	School size	Poverty status	Minority percent
Rural remote	43	32 – 418	0 – 99%	0 – 95%
Rural distant	19	81 – 661	18 – 82%	1 – 99%
Small town	8	165 – 1883	16 – 51%	1 – 56%

Note. Figures for school size, poverty status, and minority percent represent ranges within each category.

Table 2

Proportion Indicating Educational Barriers Difficult

Educational barriers	<i>M</i>	<i>SD</i>	%
Getting married	3.24	1.77	28.7
Needing to help or support my family	3.29	1.76	27.9
Not wanting to leave my friends	3.25	1.67	26.2
Parents and friends not supporting my education plans	2.85	1.84	24.3
Would have to move away or go somewhere else to go to school or get training	3.09	1.69	24.1
Being unsure of what going to school would do for me in terms of getting a job	3.12	1.68	23.9
My coursework did not adequately prepare me for my future education plans	3.07	1.68	23.1
Family problems	2.85	1.73	21.6
Not getting any or enough information about different schools	3.07	1.59	20.5

Note. Proportion reflects percentage of participating students that marked the two highest points on the scale assessing how difficult each barrier would make it complete their education (1 = “not at all difficult” to 6 = “very much”).

Table 3

Factor Loadings from Principal Component Analysis of Educational Barriers

Educational barriers	Component
Getting married	.68
Needing to help or support my family	.67
Not wanting to leave my friends	.59
Parents and friends not supporting my education plans	.70
Would have to move away or go somewhere else to go to school or get training	.65
Being unsure of what going to school would do for me in terms of getting a job	.77
My coursework did not adequately prepare me for my future education plans	.74
Family problems	.69
Not getting any or enough information about different schools	.74
Eigenvalue	4.32
% of variance explained	47.98

Table 4

Correlation Matrix and Descriptive Statistics

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
1. Educational barriers	—																
2. Grade in school	-.14	—															
3. Gender (female)	<.01	<.01	—														
4. African American	.04	.01	.01	—													
5. Hispanic/Latino(a)	.05	.02	<.01	-.08	—												
6. Other race/ethnicity	.03	-.07	-.01	-.10	-.15	—											
7. English not native language	.06	-.01	<.01	-.02	.54	.03	—										
8. Mother's education	-.09	-.01	-.06	-.03	-.18	.01	-.19	—									
9. Father's education	-.09	.02	-.05	-.04	-.18	-.01	-.15	.46	—								
10. Family economic hardship	.16	.01	.05	<.01	.05	.07	.06	-.20	-.17	—							
11. RLIS	.03	-.02	.03	.12	.13	.10	.06	-.07	-.09	.02	—						
12. SRSA	-.03	.03	-.02	-.10	-.05	<.01	<.01	.02	.01	.01	-.50	—					
13. > 50% students free/reduced lunch	.02	.03	.01	.14	.26	.06	.23	-.09	-.11	.04	<.01	<.01	—				
14. > 50% students minority	.06	-.03	.02	.25	.19	.24	.15	-.09	-.11	.05	.38	-.19	.36	—			
15. South	.05	<.01	.02	.24	-.11	.12	-.06	-.08	-.12	.01	.56	-.37	.02	.41	—		
16. West	-.02	-.01	-.04	-.13	.28	.01	.18	.03	.08	.01	-.24	.30	.13	-.13	-.57	—	
17. Northeast	-.01	.01	.01	-.06	-.09	-.04	-.06	.01	.01	-.04	-.24	-.04	-.12	-.14	-.23	-.20	—
M	27.18	2.49	.55	.05	.10	.16	.07	3.22	2.94	5.22	.41	.26	.18	.20	.39	.33	.07
SD	10.57	1.09	.50	.21	.30	.36	.25	1.58	1.58	2.71	.49	.44	.39	.40	.49	.47	.26

Note. Correlations statistically significant at $p < .05$ are in boldface.

Table 5

Hierarchical Regression Analysis Predicting Perceived Educational Barriers

	Step 1			Step 2		
	B	SE	β	B	SE	β
Grade in school	-1.32	.15	-.14***	-1.33	.14	-.14***
Gender (female)	.01	.32	<.01	-.25	.31	-.01
African American	2.29	.74	.05***	1.60	.78	.03*
Hispanic/Latino(a)	1.59	.63	.05*	1.28	.68	.04 [†]
Other race/ethnicity	.89	.44	.03*	.41	.47	.01
English Not Native Language	1.39	.74	.03 [†]	.97	.74	.02
Mother's education				-.22	.11	-.03*
Father's education				-.25	.11	-.04*
Family economic hardship				.56	.06	.14*
RLIS				-.50	.44	-.02
SRSA				-.38	.42	-.02
> 50% students free/reduced lunch				-.34	.46	-.01
> 50% students minority				.45	.50	.02
South				.63	.51	.03
West				-.25	.46	-.01
Northeast				.35	.68	.01
ΔR^2		.025			.029	
Total R^2		.025			.055	
F Δ		19.32***			13.66***	

[†] $p < .10$.

* $p < .05$.

** $p < .01$.

*** $p < .001$.