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Appalachian Origin Moderates the Association Between School Connectedness and GPA: Two Exploratory Studies

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APPALACHIAN ORIGIN MODERATES THE ASSOCIATION BETWEEN SCHOOL CONNECTEDNESS AND GPA: TWO EXPLORATORY STUDIES

BY STEFFEN WILSON AND JONATHAN GORE

It was hypothesized that students who come from central Appalachia, a region in the country that emphasizes and promotes collectivism and social connections, will experience greater academic benefit from a high level of perceived connectedness to the university than mainstream students who originate from regions that have more of an individualistic emphasis. To test this hypothesis, the relationship between connectedness to the university, student regional origin, and self-reported GPA was investigated in two studies. It was found in both studies that the association between school connectedness and GPA was positive among central Appalachian students, but there was no association among the non-Appalachian students. Implications for facilitating the success and retention of central Appalachian students are discussed.

Adults with a college education have more job prospects and earn more than adults with college courses but no degree, and more than adults with no college credits at all (Pascarella & Terenzini 2005). As a result, student retention is of considerable interest to college and university administrators, and to leaders within higher education and the political systems of economically distressed states. This is because improving retention also improves the quality of life for the citizens of a state (e.g., Kentucky Council on Postsecondary Education, 2007). Increasing college student retention, however, is not always an easy task. Recent research indicates that approximately 28 percent of students entering a four-year institution leave after the first year (Tinto 1993). Only 45 percent of students who enter the university complete a bachelor's degree within six years (Astin, Tsui, and Avalos 1996). Therefore, there is a high demand for research that examines the factors that promote retention.

Unfortunately, contemporary student success models can only explain a small fraction of students' performance and perseverance (Braxton,

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Duster, and Pascarella 1988; Pascarella and Terenzini 2005; Tinto 1993). A proposed reason for the inadequacy of these models is that connectedness to the university has not been adequately considered in student retention research (Hoffman, Richmond, Morrow, and Salomone 2002), and several researchers have recently called for further investigation into this construct (Hagerty, Williams, and Oe 2002; Hausmann, Shofield, and Woods 2007; Hurtado and Carter 1997). Thus, the current study investigates the association between school connectedness and academic performance. In addition, we propose that connectedness can be more or less influential on a student's success, depending on the region from which the student originates and that region's prominent culture.

The Importance of School Connectedness

Gross (1954) suggests that humans have a primary need to feel a sense of belonging to a group. School connectedness is defined as college students' subjective sense of "fit" within the university, and the perception that they are personally accepted, respected, included, and supported by others in the academy (Bollen and Hoyle 1990; Goodenow 1993; Hagerty, Williams, and Oe 2002; Hoffman et al. 2002). A number of studies have found that a high level of connectedness at the university positively affects student persistence and graduation rates (Hausmann, Schofield, and Woods 2007; Hotchkiss, Moore, and Pitts 2006; Zea, Reisen, Beil, and Caplan 1997). As examples, Goodenow (1993) found that students with a higher sense of school connectedness had higher first quarter and academic year grade point averages. Hotchkiss, Moore, and Pitts (2006) found that students in a Freshman Learning Community, an intervention meant to increase the social integration of the student into the university community, had higher GPAs than students who were not members of a learning community. In addition, Tinto (1993) suggested that it is the successful integration of students into the university that best predicts their perseverance. Thus, many support services and programs have been implemented within the university to facilitate student integration into the campus community. Examples of such programs include the addition of counseling centers, recreation and fitness centers, offices of student life, offices of diversity services, the development of learning communities, and tutoring services and centers.

Clearly, connectedness to the university is an important facilitator of student success, but who is most likely to benefit from it? We suggest that students who come from a region in the country that promotes collectivism and social connections may be more likely to benefit from connectedness to the university than students who originate from regions that have more of an individualistic emphasis. Overall, citizens of the United States are

considered to be some of the most individualistic people in the world (see Kim 1994 for a review), but there are several collectivistic regions in the country where citizens strongly endorse family and community values (Vandello & Cohen 1999). One of these regions is Appalachia. The following section discusses culture in Appalachia.

Appalachian Culture and School Connectedness

Appalachia is defined by the federal Appalachian Regional Commission as a mountain range running from northeast Mississippi to southwest New York. It includes portions of twelve states in the eastern United States and all of the state of West Virginia, thus it is a diverse region in economy, culture, and geography (Latimer and Oberhauser 2005; Tang and Russ 2007; Zilik 2007). However, the Appalachian region, and especially the central Appalachian states of West Virginia, Kentucky, and Tennessee (Tang and Russ 2007), has been recognized as economically distressed; the poverty rate in central Appalachia is currently twice that of the national average (deMarrais 1998; Owens 2000; Tickamyer and Duncan 1990; U.S. Census Bureau 2000; Ziliak 2007).

In addition, Appalachia is known to have severe difficulties in academic retention. The high school dropout rate in Appalachia is almost double that of the national average (Laird, Cataldi, KewalRamani, and Chapman 2008) and only 12.3 percent of the Appalachian adult population holds a college degree, compared to the national average of 21 percent (U.S. Census Bureau 2000). The central Appalachian region has the lowest high school and college completion rates of the Appalachian region (Ziliak 2007).

The low percentage of adults in Appalachia holding a college degree means that the children in Appalachia have fewer role models with a college education, less access to information about college, and fewer supports to facilitate the road to college than other children. Additional obstacles such as poverty, unemployed parents (Seal and Harmon 1995), and inadequate schooling further exacerbate the roadblocks in front of college-bound Appalachian adolescents and young adults (deMarrais 1998). In addition, Seal and Harmon (1995) reported that students from this region are more likely to receive special education services and are less likely to be classified as gifted. Such environmental deficits further negatively impact the likelihood that young Appalachian adults will graduate from college and benefit from the economic advantages of a college degree.

A number of scholars have suggested that the citizens of Appalachia share a common cultural heritage that is fundamentally different from that of the mainstream U.S. (Tang and Russ 2007; Tripp-Reimer and Friedl

1977). One of the most noted characteristics of the people of Appalachia is their strong interpersonal bonds (Denham et al. 2004; Keefe 1998; Tang and Russ 2007). These bonds include a strong sense of family origin (Beaver 1986; Halperin 1990; Keefe 1998; Jones 2002) and kinship ties (Batteau 1982; Ball 1968; Bryant 1981; Matthews 1966; Tang and Russ 2007), and a sense of community as both a social identity and a type of social organization (Beaver 1986; Brown 1988; Halperin 1998; Hicks [1976] 1992; Kaplan 1971; Templeton et al. 2008). Other characteristics of this culture include keeping outsiders at a distance, being attached to one's geographic region, a strong sense of religion and personal values, being less open to change (Baldwin 1996; Montgomery 2000; Shinn 1999), and a strong desire to avoid conflict (Beaver 1986; Hicks [1976] 1992; Jones 1994; Keefe 1998).

A recent study investigating the child rearing practices of Appalachian parents provides evidence for the culture of interpersonal bonds by outlining the role of community involvement in the socialization of the adolescent (Templeton et al. 2008). Researchers reported that the socialization of Appalachian youth is viewed as a shared responsibility of invested members of the community including not only parents, but extended family members, neighbors, teachers and coaches, religious leaders, camps, and social clubs. It is this network of community involvement that speaks to the importance of adult involvement and support in adolescent development. Adults who hold an interest in the child actively monitor the activities of the adolescent. The adolescent is taught to be respectful and responsible to the myriad of adults who share an interest in their developmental outcomes. Adolescent autonomy then develops through the combined forces of community support and the instillation of appropriate behavioral standards.

In a direct assessment of the collectivistic values of the Appalachian people, it was found that individuals from central Appalachia score higher on collectivism than individualism. Additionally, individuals from central Appalachia scored higher on horizontal collectivism, in which individuals see themselves as being part of an in-group in which the members are roughly equivalent to one another in status (Tighe 2007).

Appalachian Students at the University

Based upon the evidence presented above, in comparison to non-Appalachian students, Appalachian students entering the university likely come to college with greater collectivistic and egalitarian social values, and the need to maintain roots to their places and people of origin. If the Appalachian student is coming to the university from a culture that emphasizes strong family and community ties (Batteau 1982; Ball 1968; Brown 1988; Bryant 1981; Halperin 1998; Hicks [1976] 1992; Matthews

1966), then a higher sense of connectedness at the university may benefit Appalachian students more than students who are not from Appalachia. To date, there have been no investigations of this difference. Therefore, the purpose of these studies is to test the hypothesis that regional origin, specifically Appalachian versus non-Appalachian regional origin, moderates the relationship between connectedness to the university and academic success. Specifically, it was predicted that the positive relationship between connectedness to the university and college GPA would be stronger among students from the Appalachian region than among non-Appalachian students.

Study 1

The purpose of Study 1 was to test the hypothesis that regional origin moderates the association between school connectedness and academic performance. Specifically, we hypothesized that the positive association between school connectedness and academic performance would be stronger among students from the Appalachian region of Kentucky than among students who are not from Appalachian Kentucky.

Method

Participants. Participants were 187 undergraduate students who completed the survey to fulfill a course requirement. The students in this study attend a regional comprehensive university that is situated in a central Appalachian county serving students primarily from the eastern and southeastern counties of Kentucky (86 percent of the student body is from in-state). Approximately half of the students at the university can be classified as first-generation college students, meaning that neither of their parents has completed a college degree. Eighty-one participants were from the central Appalachian region of Kentucky (43 percent of the sample), and 106 originated from regions in Kentucky outside of the Appalachian region (57 percent of the sample). The majority of participants were female ($n = 144$, or 77 percent of the sample), although gender did not interact with any of the findings listed below. There was also no significant difference between males and females in terms of where they originated, $\chi^2(1) = 0.24, n.s.$ The majority of the participants were between the ages of 19 and 23 ($n = 159$ participants, or about 85 percent of the sample) and European American ($n = 181$ participants, or about 97 percent of the sample).

Measures

Regional Origin. To determine the region from which each participant originated, we asked, "In which town or city did you spend most of your childhood?" Participants' free responses were then coded as being

Appalachian or non-Appalachian according to the county within which the town or city was located. The Appalachian counties were noted by referring to the Appalachian Regional Commission's list of counties in Kentucky (<http://www.arc.gov/index>), which determines the counties that are to be considered part of the Appalachian region.

School Connectedness. Participants completed the fourteen-item School Connectedness Scale (Florell and Moore 2007) to measure the degree to which they felt they were active participants at the school. The Cronbach's alpha of the School Connectedness scale is .82, indicating that the items on the scale have an acceptable internal consistency and are likely measuring the same construct. Participants rated items on a 5-point scale (1 = *strongly disagree*, 5 = *strongly agree*), which included statements such as, "There are lots of chances to participate in class activities and discussions."

Academic Performance. Participants were asked to provide their cumulative grade point average (GPA) as an indicator of their academic performance.

Procedure

Participants completed the survey questionnaire online by logging into the data collection system and volunteering for the study by accessing the link to the survey. They read an informed consent statement, and then completed the measures associated with this study as well as a variety of other school-related assessments. Upon completion, they were provided with a debriefing statement.

Results and Discussion

Preliminary Analyses. Two independent samples *t*-tests were conducted with Region as the independent variable and School Connectedness and GPA as the dependent variables. Neither test revealed significant mean differences between people who were from the Appalachian region and those who were not ($ps > .05$). There were also no significant gender differences on the two variables ($ps > .05$). In accordance with previous studies (Goodenow 1993; Hotchkiss, Moore, and Pitts 2006), a bivariate correlation analysis revealed a relatively low but significantly positive association between School Connectedness and GPA ($r = .21, p < .05$) in the combined sample.

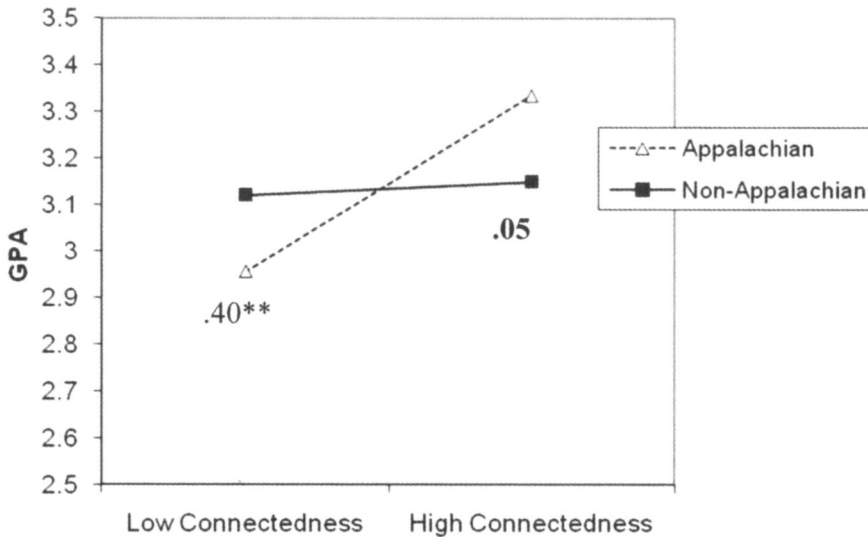
Region X Connectedness Interaction. To test the hypothesis that the association between school connectedness and academic performance is stronger among people from the Appalachian region than among those from other areas, a hierarchical linear regression analysis was conducted using the centered School Connectedness scale score, the binomial Region score (0 = *Appalachia*, 1 = *non-Appalachia*) and their interaction term as

Table 1: Summary of Hierarchical Regression Analysis for Appalachian Origin Predicting Score on the School Connectedness Scale (Study 1)

Variables	B	SE B	β	ΔR^2
STEP 1				.04**
Region	-0.01	0.07	-.01	
School Connectedness	0.38	0.13	0.21**	
STEP 2				.03**
Region	-0.01	0.07	-0.1	
School Connectedness	0.76	0.20	.41**	
Region X School Connectedness	-0.66	0.27	-0.27*	

* $p < .05$, ** $p < .01$

Figure 1: Interaction of Region and School Connectedness Predicting GPA (Study 1)



** $p < .01$

1 = 2.0 - 2.5; 2 = 2.6 - 2.9; 3 = 3.0 - 3.5; 4 = 3.6+.

the independent variables, and GPA as the dependent variable. Results revealed a significant main effect of School Connectedness, which was qualified by a significant interaction effect (see Table 1 next page). In confirmation of our hypothesis, simple slopes analyses revealed that the association between School Connectedness and GPA was stronger among people from Appalachia ($\beta = .40, p < .01$; see Figure 1) than among people from other regions of Kentucky ($\beta = .05, n.s.$).

The results of these analyses confirmed our hypothesis. Students from Appalachia reported significantly better academic performance when they also felt connected to their university. This suggests there are strong enough cultural differences in Appalachian and non-Appalachian college students to emphasize connectedness among a large student body in central Kentucky. Interestingly, students who were not from the Appalachian region performed about the same regardless of whether they did or did not feel connected to the university. This result is counter to the current literature (Goodenow 1993; Hotchkiss et al. 2006) that reports a positive relationship between belongingness and GPA for all students.

There were some limitations to this study. Most noteworthy is that the measure used to assess school connectedness has not been extensively tested for construct validity and may be assessing a variable other than what was intended. Therefore, an established tool for assessing connectedness would strengthen the ability to draw conclusions about these results.

Study 2

The purpose of Study 2 is to replicate the finding that regional origin moderates the association between school connectedness and academic performance. In this study, an established and reliable measure of school connectedness is utilized to test the hypothesis.

Method

Participants. Participants were 529 undergraduate students who completed the survey to fulfill a course requirement. As in Study 1, the students in this study attend a regional comprehensive university that is situated in a central Appalachian county serving students primarily from the eastern and southeastern counties of Kentucky (86 percent of the student body is from in-state). Approximately half of the students at the university can be classified as first-generation college students, meaning that neither of their parents has completed a college degree.

Of the total sample, 239 participants were from the central Appalachian region of Kentucky (45 percent of the sample), and 290 originated from regions in Kentucky and the United States outside of the Appalachian

region (55 percent of the sample). Ten of the participants were international students. The majority of participants were female ($n = 392$, or 74 percent of the sample), although gender did not interact with any of the findings listed below. There was also no significant difference between males and females in terms of where they originated, $\chi^2(1) = 1.89, n.s.$ The majority of the participants were between the ages of 18 and 24 ($n = 473$ participants, or about 89 percent of the sample) and European American ($n = 490$ participants, or about 93 percent of the sample).

Measures

Regional Origin. As in Study 1, we asked participants to answer the question, "In which town or city did you spend most of your childhood?" Participants' free responses were then coded as being Appalachian or non-Appalachian according to the county within which the town or city was located. The Appalachian counties were noted by referring to the Appalachian Regional Commission's list of counties in Kentucky (<http://www.arc.gov/index>), which determines the counties that are to be considered part of the Appalachian region.

School Connectedness. Participants completed the Psychological Sense of School Membership (PSSM) scale as a measure of school connectedness (Goodenow 1993; Cronbach's $\alpha = .87$). This reliable scale consists of eighteen questions on student perceived liking, personal acceptance, inclusion, respect, and participation in the school environment (e.g., "Most teachers at (name of school) are interested in me" and "I can really be myself at this school") rated on a 5-point scale (1 = *not at all true*, 5 = *completely true*). Five of the eighteen items are reversed to avoid a set response pattern (e.g., "Sometimes I feel as if I don't belong here"). This scale was originally created for use with high school students, so the questions were modified slightly for use with college students (e.g., "Most professors at ECU are interested in me"). This scale has a very high internal reliability for a variety of populations (Cronbach's $\alpha = .77 - .88$), and it is a validated measure of school connectedness (Goodenow, *Academic Performance*). Participants were asked to indicate their GPA by selecting their approximate GPA on a 1 – 4 scale (1 = 2.0 – 2.5; 2 = 2.6 – 2.9; 3 = 3.0 – 3.5; 4 = 3.6+).

Procedure

Participants completed the survey questionnaire online by logging into the data collection system and volunteering for the study by accessing the link to the survey. They read an informed consent statement, and each participant then completed the measures associated with this study as well as a variety of other school-related assessments. Upon completion, they were provided with a debriefing statement.

Results and Discussion

Preliminary Analyses. Two independent samples *t*-tests were conducted with Region as the independent variable and School Connectedness and GPA as the dependent variables. Neither test revealed significant mean differences between people who were from the Appalachian region and those who were not ($ps > .05$). There were also no significant gender differences on the two variables ($ps > .05$). In accordance with previous studies (Goodenow 1993; Hotchkiss et al. 2006), a bivariate correlation analysis revealed a small but significantly positive association between School Connectedness and GPA ($r = .17, p < .05$) in the combined sample.

Region X Connectedness Interaction. To test the hypothesis that the association between school connectedness and academic performance is stronger among people from the Appalachian region than among those from other areas, a hierarchical linear regression analysis was conducted using the centered School Connectedness scale score, the binomial Region score (0 = *Appalachia*, 1 = *non-Appalachia*) and their interaction term as the independent variables, and GPA as the dependent variable. The results revealed a main effect of School Connectedness ($\beta = .20, p < .01$), but no other significant effects. This was contrary to the results from Study 1, so we decided to conduct a few follow-up tests to search for the reason.

Post hoc Analysis. We found that there was a clear distinction between students whose GPA was lower than 2.0 (i.e., students earning a D average or less; $n = 48$), and students whose GPA was higher than 2.0 (i.e., students earning a C average or higher; $n = 481$). Specifically, the bivariate correlation between School Connectedness and GPA was positive among students above 2.0 ($r = .17, p < .01$), but it was negative among students below 2.0 ($r = -.26, p = .06$). In other words, underperforming students tended to perform even worse as they felt more connected to the university, which contradicts most of the findings from previous research.

As a result of this finding, we conducted a second test of the hypothesis using the same procedure as before, but excluding the students who had a GPA lower than 2.0. As in Study 1, the results revealed a significant main effect of School Connectedness, which was qualified by a significant interaction effect (see Table 2). Simple slopes analyses revealed that the association between School Connectedness and GPA was stronger among people from Appalachia ($\beta = .27, p < .01$; see Figure 2 next page) than among people from other regions of Kentucky ($\beta = .08, n.s.$) who had a 2.0 or higher GPA at the university.

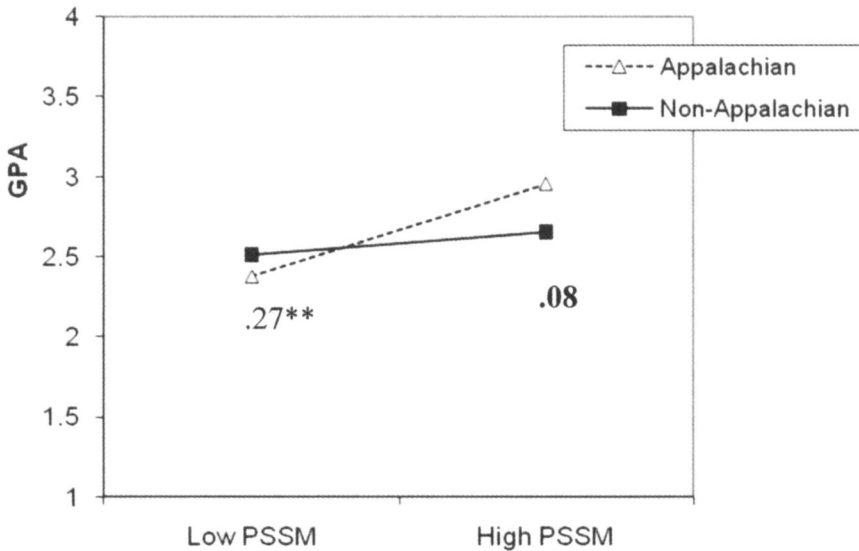
The results of these analyses replicated the results from Study 1 with an established and validated measure of school connectedness. Specifically, students with an overall GPA of 2.0 or higher from Appalachia reported significantly better academic performance when they also felt connected

Table 2: Summary of Hierarchical Regression Analysis for Appalachian Origin Predicting College Student Psychological Sense of Student Membership (Study 2)

Variables	B	SE B	β	ΔR^2
STEP 1				.03**
Region	-0.08	0.10	-.04	
School Connectedness	0.52	0.14	0.17**	
STEP 2				.01*
Region	-0.08	0.10	-.04	
School Connectedness	0.86	0.21	0.28**	
Region X School Connectedness	-0.64	0.28	-0.15*	

* $p < .05$, ** $p < .01$

Figure 2: Interaction of Region and Sense of School Membership Predicting GPA (Study 2)



** $p < .01$

1 = 2.0 - 2.5; 2 = 2.6 - 2.9; 3 = 3.0 - 3.5; 4 = 3.6+.

to the university. Just as in Study 1, students with an overall GPA of 2.0 or higher who were not from the Appalachian region performed about the same regardless of whether or not they felt connected to the university. Thus, the differential associations between connectedness and academic performance were replicated across two studies using different measures of the constructs.

General Discussion

The transition to college is generally believed to be a very stressful one, as students must adjust to new social and work environments (Larose, Bernier, and Tarabulsy 2005). College students from the Appalachian region enter the university with a unique set of cultural values and personal characteristics that are likely to make this transition even more difficult. These values include a strong sense of community and kinship ties (Brown 1988; Halperin 1998; Hicks [1976] 1992; Kaplan 1971; Tang and Russ 2007; Templeton et al. 2008; Tighe 2007), which makes leaving home and being away from family very difficult. The adjustment to college may therefore be a stressful transition, unless that institution makes them feel like they are part of a larger community.

Indeed, we found in two exploratory studies that moderate-to-high performing Appalachian students had higher GPAs when they felt connected to the school than when they did not. In contrast, moderate-to-high performing students who were not from the Appalachian region reported similar academic performance regardless of whether they did or did not feel a sense of belonging at the university. This study is the first of its kind to examine the moderating effect of Appalachian regional origin on the association between school connectedness and academic performance.

Past research has demonstrated that connectedness is related to the number of in-group friendships (Levin, Van Laar, and Foote 2006), distance from close others (Batteau 1982; Beaver 1986; Ball 1968; Brown 1988; Bryant 1981; Halperin 1998; Hazan and Zeifman 1999; Hicks [1976] 1992; Matthews 1966), and participation in a learning community (Hotchkiss et al. 2006). Further exploration of these factors, and how they benefit Appalachian students, can facilitate the creation of effective recruitment and retention plans catered to this underserved and undereducated population.

In both Studies 1 and 2, there was no relationship between school connectedness and academic success among students who were raised outside of Appalachia. This result is counter to the existing literature (Goodenow 1993; Hotchkiss et al. 2006), which consistently reports a positive relationship between belongingness and GPA. It may be the

case that the results of previous research are being driven primarily by certain groups of students in the sample, as is likely the case in the studies reported here. Therefore, the reason behind the null relationship between school connectedness and GPA in non-Appalachian students should be further investigated.

In Study 2, we also found that for both Appalachian and non-Appalachian students with GPAs below 2.0, academic performance worsened as sense of belonging increased. This result is counter to the current literature on the benefits of sense of belonging. It may be the case that there is a subset of students who are very involved and at home at the university. This comfort level and involvement may then interfere with their academic success. Alternately, it may be the case that these students simply enjoy the community, but are not committed to their studies. Future research should further explore this unusual subgroup of students.

Limitations

There are a number of limitations of these studies. A primary limitation is the assumption that the students who come from a central Appalachian county are more collectivistic in culture. Although the central Appalachian region is most often associated with the most definitive studies of Appalachian culture (Tang and Russ 2007), the documentation of the culture of central Appalachia is primarily anecdotal in nature (Brown 1988; Halperin 1998; Hicks [1976] 1992; Kaplan 1971; Tang and Russ 2007). Only a few empirical studies of the characteristics of this culture are available (Templeton et al. 2008; Tighe 2007). And, even if it were well documented that this culture is collectivistic, it is also the case that there is much diversity within Appalachia (Latimer and Oberhauser 2005; Tang and Russ 2007; Ziliak 2007). Therefore, future research on this topic should assess the endorsement of collectivistic values and additional indicators of Appalachian cultural values in individual participants in addition to region of origin, to ensure greater certainty of cultural values held by participants.

In a related study, Gore and Wilburn (2009) found that the association between individualism and collectivism with GPA is moderated by regional origin. Specifically, Appalachian students performed better than non-Appalachian students when they were high in collectivism, whereas non-Appalachian students performed better than Appalachian students when they were high in individualism. These findings suggest that internalizing the cultural values of the region can have important benefits. Future research may want to examine family-level variables such as patriarchy, traditional family values, and authoritarianism to explore the possible connections to academic performance, perseverance, and school connectedness.

Because the Appalachian region is a large and diverse area, these results can be best applied to students from the central Appalachian region of Kentucky. The same results may not be found in students from the northern and southern Appalachian regions.

Another limitation of the studies reported here is that GPA was assessed using a self-report measure. In Study 1, students were asked to write in their GPA. In Study 2, students were asked to indicate their GPA range on a four point scale. Although the participants in this study have the ability to obtain their cumulative GPA online at any time, and they meet with an academic advisor every semester, it is unclear if the GPA they reported was an accurate estimate of their actual GPA. In the future, participants' GPAs will be obtained from the registrar's office for the sake of accuracy.

On a related note, the relationship between school connectedness and GPA may not be a direct one for either Appalachian or non-Appalachian students. Instead, it may be that the relationship between school connectedness and GPA in Appalachian students is mediated through a third variable. Future studies should investigate these possibilities and others.

Additionally, several important academic outcomes in each population of students were not examined, particularly retention rates. Future applications of this work would contribute greatly by examining the likelihood of dropping out of college for Appalachian students based on perceived connectedness. A number of studies have found that a high level of connectedness at the university has been found to positively affect student persistence and graduation rates (Hausmann et al. 2007; Hotchkiss et al. 2006; Zea et al. 1997), but the role of connectedness and actual retention rates has not been examined in Appalachian students.

Conclusion

Two studies are reported in which region moderated the relationship between school connectedness and GPA. Specifically, a positive relationship was found between school connectedness and GPA in students who were from the Appalachian region in Kentucky. School connectedness was not related to GPA in students who were not from the Appalachian region. These results suggest that facilitating connectedness to the university may be a way to promote the academic success, and possibly the degree completion, of moderate-to-high performing Appalachian college students.

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