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Latino Adolescent Educational Affiliation Profiles

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Latino Adolescent Educational Affiliation Profiles

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Abstract

Supporting post-secondary access for Latino adolescents is important due to the size of the population and mixed evidence of progress. In order to better understand the college-going and school-belonging attitudes of Latinos, we used an exploratory latent profile analysis to identify the *educational affiliation* profiles present in a sample of Latino 7th – 10th grade students in the Southeastern U.S. In addition, we investigated how proximal peer processes (support and discrimination) functioned to differentiate membership in the educational affiliation profiles. We found that a 3-typology profile was the best fit to the data (low, moderate, and high educational affiliation) and that peer support was more likely to be associated with membership in the high profile (compared to the low profile and moderate profile), while peer discrimination was more likely to be associated with membership in the moderate profile (as compared to the high profile). Implications for conceptualizing college readiness are offered.

Keywords: college-going self-efficacy, Latino adolescents, latent profile analysis, support and discrimination

Latino Adolescent Educational Affiliation Profiles

Latino adolescents in the United States have been making gains recently in terms of their movement along the pathway into college. The high school dropout rate for Latinos has decreased, dropping from 24% in 2003 to 13% in 2012 (Santiago, Galdeano, & Taylor, 2015). From 2010 – 2014, there was a 78% increase in the number of Latino high school graduates who had taken the ACT college entrance test (American College Testing, 2015). Finally, between 1990 and 2013, the college enrollment rate of Latino students quadrupled (Kena et al., 2015).

A closer look shows that there are still some issues to be addressed, however, before all Latino students can attain their desired educational goals. For example, almost half of Latino post-secondary students entered community colleges, where completion rates tend to be lower (Krogstad, 2015). Latinos born outside the United States still tend to have higher high school dropout rates and lower rates of post-secondary enrollment than their U.S. born counterparts (Santiago, Galdeano, & Taylor, 2015). In addition, only 49% of low-income students who graduate from high school enroll in college at all, as compared to 80% of high-income students (Kena et al., 2015). Thus, the profile of college-going Latino adolescents is still skewed.

These trends are important not only because college completion provides the satisfaction of achieving one's aspirations, but also because a post-secondary credential can provide concrete benefits in terms of job opportunity, income, civic participation, and wellbeing (Baum, Ma, & Payea, 2013). In order to better understand the college-going attitudes of Latino adolescents, we used an exploratory latent profile analysis to identify the educational affiliation profiles present in a sample of Latino 7th – 10th grade students. *Educational affiliation* is a label created for this study that encompasses both a sense of belonging in school and self-efficacy beliefs for the tasks necessary to go to college. The study takes a person-centered approach to describing how these

two variables exist together within individuals, rather than describing the relationship between the constructs or variables themselves (Muthén & Muthén, 2000). This is a meaningful difference because it allows for exploration of a complex lived experience – how do Latino students prepare for and access college – in a more holistic and less reductionistic way that could potentially inform future interventions (Pastor, Barron, Miller, & Davis, 2007). Readers interested in the uses of latent profile analysis in educational and psychological research are referred to a comprehensive special issue for several examples (Kulikowich, 2007).

College-going Self-efficacy

Self-efficacy is a concept drawn from Bandura's (1989) social cognitive theory that spans cognitive, behavioral, and social influences. Self-efficacy beliefs are part of a motivational system whereby individuals cognitively evaluate their confidence to perform a specific task well. For example, the social context provides feedback to students who are considering applying to college ("Maybe college is not for families like yours,"), but those individuals can decide whether to accept or reject the feedback ("I will work twice as hard if I have to, but I will show them I can do it."). Bandura emphasized the importance of this sense of personal agency in self-efficacy beliefs – within given social constraints, people can generate their own opportunities.

College-going self-efficacy is defined as confidence in one's ability to complete successfully a set of tasks associated with entering college (e.g., I can choose the high school classes needed to get into a good college) and persisting in a college (e.g., I could do the class work and homework assignments in college classes) (Gibbons & Borders, 2010a). Bandura's (1989) theory and subsequent empirical studies (Garriott & Flores, 2013; Rivera, 2014) indicate that Latino students are more likely to attempt a task related to college-going when they feel a

sense of confidence or agency. Thus, college-going self-efficacy beliefs could be a key construct for those interested in bolstering Latino educational access.

Few scholars have examined college-going self-efficacy beliefs among Latino youth. Gibbons and Borders (2010a) created a scale to measure college-going self-efficacy beliefs in middle school youth and normed it with potential first generation college students (including Latino and African American students). In a subsequent study with the measure, they found that a diverse population of non-first generation college students did have higher college-going self-efficacy beliefs, higher outcome expectations, and perceived fewer barriers to college than did similar first generation college students (Gibbons & Borders, 2010b). Gonzalez, Stein and Huq (2013) also found a cross-sectional association between perceived barriers to college and decreased college-going self-efficacy in a Latino adolescent population, and a positive association between peer support and college going self-efficacy in the same population (Gonzalez, Stein, Kiang & Cupito, 2014). Finally, Garriott and Flores (2013) conducted a longitudinal study with 90 Mexican American students. The researchers found that college-going self-efficacy at time one was a positive predictor of educational goals and GPA at time two, while perceived barriers at time one was a negative predictor of goals at time two. Thus, a nascent literature consistently shows that college-going self-efficacy is influential among Latino youth and deserves further examination. The current study makes a contribution by examining college-going self-efficacy beliefs with student perceptions of school belonging to generate a person-centered educational affiliation profile.

Sense of School Belonging

Sense of school belonging, including relationships with peers, teachers, or other key adults in the school, can have an important influence on students' motivation, engagement,

commitment, and success (Goodenow, 1993). Sense of school belonging is important for Latino youth because it can buffer against the negative experiences that can lead to dropout, increase expectations of positive outcomes, and enhance effort toward academic goals (Benner & Graham, 2011; Goodenow & Grady, 1993). Roche and Kuperminc (2012) also demonstrated how racial-ethnic discrimination might be associated with lowered sense of school belonging for Latino students, which then decreased academic outcomes.

Sense of belonging at school has been shown to be associated with positive outcomes for Latino adolescents, including academic performance, academic motivation, academic expectancies, academic effort, attendance, and conduct in school (Sánchez, Colón, & Esparza, 2005; Vaquera, 2009). One study of Latinos showed that friendship indicators directly improved their sense of school belonging as well as indirectly increased their academic outcomes (Delgado, Ettekal, Simpkins, & Schaefer, 2015). Another researcher suggested that Black and Latino students feel they have to prove their school belonging; if they do not feel they fit in, they tend to disengage (Johnson, 2009). Thus, school belonging can be important in settings where students are marginalized. No published studies could be found to shed light on how school belonging might be related to sense of self-efficacy for college-going tasks. However, an unpublished dissertation examined these two variables in a diverse middle school population found a positive correlation between a greater sense of school belonging and higher college-going self-efficacy scores (Steiner, 2011).

Proximal Process with Peers at School

Proximal process is a term that originates with Bronfenbrenner's bioecological model (Bronfenbrenner & Ceci, 1994) and refers to frequent and consistent interactions in the individual's immediate environment (e.g., family, peers). Interactions with peers form an

important part of the social fabric of school for adolescents, and can have both positive and negative implications for development. Peer social support can be a meaningful source of encouragement, information, and connection (Malecki & Demaray, 2002). For some youth, there is also the possibility that peer relationships could include discriminatory comments or biased behaviors (Benner & Graham, 2011). These proximal peer interactions could influence a student's general assessment of school belonging or growing sense of self-efficacy for college-going tasks, for better or for worse (Rivera, 2014; Sokatch, 2006; Taggart & Crisp, 2011). Thus, the secondary goal of the current study is to explore the ability of proximal processes (peer support and peer discrimination) to differentiate among possible educational affiliation profiles.

Peer social support can include encouragement, understanding, caring, emotional and instrumental support, guidance, and companionship (Benner & Graham, 2011; Rivera, 2014; Vaquera, 2009). Social support can serve as a buffer from some of the negative effects of stressors on academic and emotional well-being. Recent studies have found that Latinos who reported having peer support were more likely to report lower school engagement problems, higher achievement, an increased sense of school belonging, a positive sense of college-going self-efficacy, and eventual college enrollment (Delgado et al., 2015; Gonzalez et al., 2014; Rivera, 2014; Sokatch, 2006; Vaquera, 2009).

On the other side, peer discrimination is defined as unfair treatment from peers because of one's characteristics (e.g., race, ethnicity, gender) and can include behaviors ranging from verbal to physical harassment (Greene, Way, & Pahl, 2006; Johnson, 2009; Seaton, Neblett, Cole, & Prinstein, 2013). Adolescents are developing their identity during this time period and will internalize the opinions of their peers in the process. Discrimination during the high school years can have negative effects on Latino student wellbeing, academic performance and college

planning (Azmitia & Cooper, 2011; Benner & Graham, 2011, Taggart & Crisp, 2011).

Discrimination from peers can lead to negative academic and psychological outcomes, such as depression, low self-esteem, and decreased aspirations (Greene et al., 2006; Johnson, 2009, Taggart & Crisp, 2011). In addition, a focus group study documented that Latina girls who reported discrimination by peers were more likely to have more absences and low motivation in school (McWhirter, Valdez, & Caban, 2013).

Thus, the research goals of the current study were to: (1) identify distinct educational affiliation profiles of Latino students (comprised of students' individual variation in college going self-efficacy and school belonging) and (2) examine how proximal peer processes at time 1 may differentially predict students' membership in the educational affiliation profiles at time 2. Specifically, we tested whether the presence of peer support and peer discrimination predicted students' membership in each of the identified education affiliation profiles, while controlling for the effects of gender and age. Based on past literature, we hypothesized that college-going self-efficacy and school belonging would co-vary, such that a profile high in one variable would also be high in the other. With regard to the second goal, we expected that peer support would increase the likelihood of being in the high educational affiliation profile (i.e., higher college going self-efficacy and school belonging), and that peer discrimination would decrease the likelihood of being in the high educational affiliation profile.

Methods

Participants

The sample included Latino students in an emerging immigrant community in the rural Southeast ($N = 191$ at T1, $N = 141$ at T2). The students were in 7th – 10th grade in one city school district, which was one-third Latino at the time of the research. The mean age of the

students was 14.01 at T1, and 52.9% of the sample were female. Most of the students characterized themselves as of Mexican descent (78%), with the rest of the sample distributed across Central and South American heritage (e.g., Nicaraguan, Salvadorian, Guatemalan, Colombian, Costa Rican, or mixed Latino background). Students in the T1 sample were primarily U.S. born with at least one foreign-born parent ($n=110$), with the second largest subgroup being foreign-born students who arrived in the US when 5 years old or younger ($n=44$). The remainder ($n=24$) were born elsewhere and came to the U.S. at age 6 or older. All participants but one completed the survey in English, although they were given the option to complete it in Spanish. The students were more bilingual and bicultural than their parents, who had been in the U.S. for an average of 15.7 years at the time of the study. Some of the mothers/guardians had completed high school or other advanced formal education (21%), but the majority had stopped before obtaining a high school diploma (79%). Thus, the majority of the student participants would be the first in their family to attend college, if they attempted to do so.

Procedures

Researchers received IRB approval and accessed a list of all Latino 7th - 10th grade students from a rural school district in the Southeast (442 students among one high school and two middle schools). Before students provided their assent to participate, parental consent was acquired from either a school-sponsored event, a bilingual consent letter sent home, or through phone contact. Altogether, consent was obtained from 221 parents (79% of those reached; 50% of total) and consent was declined by 40 parents (14% of those reached, 9% of total). Students with parental consent completed measures in their school cafeteria ($N=191$ at T1). Only one student chose not to participate during the data collection. A follow-up study with the same survey format was conducted at T2 with students who had participated previously and were

available on the scheduled day ($N=141$). All students that participated in the follow-up study were given a gift card in the amount of \$5. The sample for the current study drew from both T1 and T2 data ($N = 141$) due to our analytical interest in understanding how peer support and discrimination at an earlier point might predict classification into an educational affiliation profile at a later point (one academic year elapsed between T1 and T2). The 7th - 10th grade sample was appropriate for the goals of the study, which were not to study actual college entrance rates, but to understand the attitudes and beliefs that would predispose or discourage a student from engaging in college planning and preparation at an earlier juncture. Middle school has been shown to be a critical point in the pathway to college (Eccles, Vida & Barber, 2004).

Missing data were addressed using full information maximum likelihood estimation methods (FIML), which allows for estimation of the models using all available data. In the present analyses, five cases were missing on peer support and peer discrimination. As a result, 3.6% of the cases were excluded resulting in a final sample size of 136 adolescents.

Measures

College-going Self-Efficacy Scale (CGSES). The CGSES was developed for use with middle school students in order to measure how much confidence they had in their ability to complete typical college-going tasks (Gibbons & Borders, 2010a). The scale demonstrated acceptable psychometrics with the validation sample, which included White, Black, and Latino students, some of whom were the first in their families to consider college. Sample items include both college access (e.g., “I can get accepted to a college” or “I can find a way to pay for college”) and college persistence (e.g., “I could get A’s and B’s in college” or “I could set my own schedule while in college”). The CGSES is scored on a 4-point Likert scale from 1 (*Not at all sure*) to 4 (*Very sure*). The Cronbach’s alpha for the current sample was 0.97 at T1 and T2.

Psychological Sense of School Membership (PSSM). The PSSM is used in the measurement of adolescents' view of school atmosphere and the relationship with non-parental adults, consisting of 18 items (Goodenow, 1993). Scores are measured on a 5-point Likert-type scale extending from 1 (*not at all true*) to 5 (*completely true*). Some examples of the items include "most teachers at my school are interested in me" and "I am treated with as much respect as other students." The mean score was computed, with a higher mean implying a greater sense of school membership. In a study of urban middle school students consisting of diverse ethnic backgrounds, the Cronbach's α was .80 with the English version of the scale and .77 with the Spanish version of the scale. With these groups, the PSSM showed a significant correlation with self-reported motivation measures, expectancies for school success, subjective value of schoolwork, and school achievement. This indicated that the construct validity of this scale was reliable (Goodenow, 1993). In the current sample, Cronbach's alpha was .83 at T1 and .78 at T2.

Child and Adolescent Social Support Scale (CASSS). The CASSS scale (Demaray & Malecki, 2002) measures adolescents' perceived social support from three sources including classmates, teacher, and parents. Only the 12 peer support items were used in this study, rated on a 6-point Likert scale ranging from 1 (*never*) to 6 (*always*). A mean score was computed, with a higher mean indicating greater perceived support. Examples of items include "my classmates like most of my ideas and opinions," and "my classmate(s) takes time to help me learn to do something well." In the original study, Cronbach's alpha was .94 for both genders, .94 for White students, and .95 for minority students (Demaray & Malecki, 2002). Convergent validity was supported from the correlation of the CASSS with other measures of social support (e.g., the Social Support Scale for Children at $r=.70$) (Demaray & Malecki, 2002). In the current sample, the Cronbach's alpha was .95 for T1 and .94 for T2.

Way Discrimination Scale (WDS). The WDS is a measure consisting of 21 items that quantifies discrimination. This measure was created from semi-structured, in-depth interviews with over 150 Latino, Asian American, and African American adolescents (Rosenbloom & Way, 2004). Items indicate a specific type of discrimination experienced, and scores were recorded on a Likert scale ranging from 1 (*never*) to 5 (*all of the time*). Items were averaged and scored such that higher values indicate higher levels of peer discrimination. Examples of items include, “How often do you feel that other students make fun of you because of your race or ethnicity?” and “How often do you feel that other students expect that you will get bad grades because of your race or ethnicity?” The WDS demonstrates test-retest reliability (Greene et al., 2006) and validity across multiple ethnic groups (e.g., Greene et al., 2006). The Cronbach’s alpha in the present study was .95 at T1 and .93 for T2.

Demographics. Participants’ gender, age, and nativity were utilized as control variables in preliminary analyses and evaluated for inclusion in the final analyses.

Data Analyses

Using latent profile analysis (LPA), researchers can classify students into groups or profiles based on underlying shared characteristics (Collins & Lanza, 2010). This is similar to an exploratory factor analysis in that it allows identification of factors that are proposed to share a similar underlying meaning and factor structure. An important note is that LPA and EFA are both exploratory analyses that can produce varying results depending on the sample characteristics and the measure indicators used in the analysis.

In the current study, LPA with Mplus 7.3 was conducted to identify the number of profiles underlying the three manifest indicators of college going self-efficacy (attendance and persistence) and school belonging (Collins & Lanza, 2010). We labeled these *educational*

affiliation profiles, as they represented connection to secondary school and confidence in entering post-secondary institutions. We compared a number of fit criteria across a sequence of alternative models that specified a range of two to six possible profiles. In comparing the relative fit, models with lower Akaike's Informational Criterion (AIC) and sample size adjusted Bayesian Information Criterion (A-BIC) values, higher model entropy, and a nonsignificant Bootstrapped Likelihood Ratio Test (B-LRT) are preferred. Examining latent profile separation (i.e., how is each profile distinguished from the others based on item-response means), homogeneity of latent profiles, and model interpretability (e.g., profile size and meaningfulness of each profile) is also recommended in selecting an optimal solution regarding number of typologies (Collins & Lanza, 2010).

After selecting the number of profiles, we conducted a multinomial logistic regression model with peer support, peer discrimination, gender, and age as predictors.

Results

Educational Affiliation Typologies

The lower AIC and A-BIC values, higher entropy, and significant B-LRT value ($p = .0001$) indicated that the 3-profile model fit significantly better than 2-profile whereas the 4-profile model was not a significantly better fitting model indicated by a nonsignificant B-LRT value and lower entropy value (see Table 1). In addition, a 4-profile solution would have resulted in two small groups that were nearly identical. Considering balance of model fit, parsimony, and latent class separation, we selected the 3-profile model for further analysis.

[Insert Table 1 and Table 2 here]

Table 2 presents the assigned label, the prevalence estimates for the three latent profiles, and the means for each summary score measure of college going self-efficacy (i.e., attendance

and persistence) and school belonging. The first profile, which we labeled *low educational affiliation*, included adolescents (12% of the sample) who exhibited a relatively low belief in their ability to attend and persist in college and a moderate level of school belonging. The second profile, which we referred to as *moderate educational affiliation*, included adolescents (43%) who reported moderate levels of college attendance and persistence beliefs and moderate levels of school belonging. The third profile, which we labeled as *high educational affiliation* included adolescents (45%) who reported the highest levels of beliefs regarding their ability to attend and persist in college and high levels of school belonging.

Predicting Profile Classification

Low educational affiliation versus high educational affiliation profile. Adolescents who received greater peer support were 55% less likely ($B = -.79, p < .05$) to belong to the low educational affiliation profile compared to the high educational affiliation profile. Boys ($B = 1.30, p = .07$) and older adolescents ($B = .39, p = .09$) also were 3.67 times and 1.5 times, respectively, more likely to belong to the low educational affiliation profile compared to the high educational affiliation profile; although these effects were marginally significant ($p < .10$). Peer discrimination ($B = .32, p > .05$) was not associated with differences in profile membership.

Moderate educational affiliation versus high educational affiliation profile.

Adolescents who received greater peer support were 57% less likely ($B = -.85, p < .01$) to belong to the moderate educational affiliation profile compared to the high educational affiliation profile. In contrast, those who experienced greater peer discrimination were 2.2 times more likely ($B = .80, p < .05$) to belong to the moderate educational affiliation profile compared the high educational affiliation profile. Older students were 1.5 times more likely ($B = .39, p < .05$)

to belong to the moderate educational affiliation profile relative to the high educational affiliation profile. Gender was not associated with membership in the profiles ($B = -.18, p > .05$).

Across both sets of comparisons, although nativity was initially included and tested, it was not included in the final latent profile model as it was not statistically related to the outcomes. When nativity was included in the model with age and gender, there were no substantial changes.

Discussion

The purpose of the current study was to identify Latino youth's educational affiliation profiles, which included varying levels of their feelings of school belonging and self-efficacy to attend and persist in college. In addition, we investigated how proximal peer processes (support and discrimination) functioned to differentiate membership in the educational affiliation profiles. We found that a 3-typology profile was the best fit to the data, including high college-going self-efficacy/high school belonging, moderate levels of both variables, and low college-going self-efficacy combined with moderate school belonging. Thus, there was more variation in college-going self-efficacy beliefs across the 3 profiles, and school belonging had less variation in its range in the current sample. Phrased another way, the college-going self-efficacy scores contributed more effectively to the differences in the profiles as markers of individual confidence in their capabilities. We were also able to show that peer support at T1 was more likely to be associated with membership in the high profile at T2 as compared to the low and the moderate profiles, while peer discrimination was more likely to be associated with membership in the moderate profile (only as compared to the high profile). While the use of two time points is not ideal, it does move one step beyond a simple cross-sectional analysis.

We believed that these three educational affiliation profiles were conceptually distinct because of the differences between school belonging as a construct (perceptions of social climate) and college-going self-efficacy as a construct (individual's level of confidence for performing specific future tasks). It was perhaps easier for participants to think of someone at their school who made them feel welcome and valued, which was a climate issue that they did not control, but a more rigorous test for them to state their ability to achieve future-oriented behaviors as individuals. Using latent profiles allows for a deeper understanding of how these two constructs coexist within youth, moving beyond noting that these two constructs are positively correlated. The educational affiliation profiles could help scholars and practitioners consider the impact of both school social context and individual beliefs in Latino students' progress along their educational pathways. A baseline of moderate to high perceived school belongingness and connection is helpful, but our findings suggest that individual self-efficacy beliefs could make a meaningful difference as well.

This is important because the literature shows that Latino adolescents have high aspirations for college but have not been able to follow through with actions as consistently and effectively (American College Testing, 2015). A high educational affiliation profile could help indicate students experiencing both a supportive school context and individual motivation for action, which could bode well for a student's ability to translate aspirations into behavioral attainment. In particular, a high level of confidence in completing college-going tasks is more likely to motivate action/behavior (Bandura, 1989), especially if the student would be the first in his/her family to attend college and could not receive instrumental assistance from them. A moderate educational affiliation profile might be a marker for students in need of more focused intervention from school personnel (i.e., counselors/psychologists, teachers), to help students

discern where they would need support in order to maintain their momentum toward their educational goals or which college-going tasks in particular were causing them concern. A low educational affiliation profile might trigger a different set of conversations to explore with the student the roots of their low levels of confidence in the tasks needed to go to college or the barriers that were impinging on their aspirations. In particular, an exploration of the role of peer discrimination and school belongingness could be useful, moving beyond the individual experience to school climate.

In each case, early intervention to promote educational affiliation would be key. Bandura (1989) outlines four factors that influence the formation of self-efficacy beliefs: mastery experience, vicarious experience, verbal persuasion, and affective state. Counselors, educators, parents, or psychologists could intentionally try to bolster a student's self-efficacy beliefs for college-going by providing those inputs. Mastery experiences, for example, could be found in tutoring to solve a difficult math problem step by step, or repeated attempts to revise an essay to achieve higher grades. Vicarious experience comes with observing a similar individual complete a task of interest. For example, watching a fellow Latino student deliver the valedictorian's speech at graduation could help inspire similar students to aim high and aspire for high grades. Verbal persuasion includes encouraging words from friends and family as well as task-specific coaching from teachers. Finally, affective states influence our ability to perform to the best of our ability; a relaxed and confident mindset creates a better condition for performance than an anxious and fearful one. These four factors are important because they can be intentionally modified to create a learning experience, and thus are key points for intervention or support.

The second goal of the study was to examine the role of proximal peer process in predicting whether students would be in high, moderate, or low profile educational affiliation

profiles. At the developmental stage of middle and high school, peer processes can play a critical role. On one hand, peer support was a significant predictor that differentiated membership in the low and moderate educational affiliation profile versus the high educational affiliation profile. This finding parallels the literature reviewed previously that emphasizes the importance of Latino peer support in well-being, academic motivation, achievement, and engagement with school (Rivera, 2014; Vaquera, 2009). This could be particularly important for students in families facing many risk factors, as a high level of social support from peers could offset some of the negative impact of stressors (Benner & Graham, 2011).

Although we are unable to determine which specific peers the participants were thinking about when they completed the measure, school counselors and psychologists can still work to connect peers with each other (within and across ethnic groups) and facilitate healthier relationships and sense of belonging within the school community. Opportunities to build peer support can include information sharing tasks, instrumental assistance, emotional support, and shared experiences (Malecki & Demaray, 2002). Specifically, counselors or psychologists could create cultural support groups for within-group peer support, teach Latino youth about social skills to foster supportive relationships across groups, train peer mentors, and provide in-school or after school programs to help all students feel more connected (Gonzalez et al., 2014). Although adults can help shape the social context of the school, they also can allow peer leaders to take more of a role in mentoring others and fostering a positive environment. Thus, peer support is meaningful and is amenable to intervention.

On the other hand, peer discrimination was associated with a greater likelihood of being in the moderate educational affiliation profile as opposed to the high educational affiliation profile. Whereas peers can help generate social support, adults in the schools need to take a

visible role in discouraging, disrupting and intervening on peer discrimination (Gonzalez et al., 2014). It is important for school counselors, teachers, and parents to communicate with students regarding these negative incidents as they are happening and inform school leadership.

Constructively confronting peer discrimination at the system level in addition to the individual level can help Latino youth so these discriminatory experiences do not skew their perception of school climate and belonging.

The current study has limitations, including the exploratory nature of latent profile analysis, which is heavily sample based. Thus, future studies should examine whether these educational affiliation profiles generalize to Latino adolescents across developmental period, location of residence, and school contexts. Given the small sample size in the low educational affiliation profile ($n = 16$) and the marginal effect of gender and age in that profile, a larger sample may be needed and caution should be used with interpretation of those particular results. Future research studies could create an instrument to measure educational affiliation profiles and use those categories to assess or suggest interventions in the secondary school system. The current study was more conceptual and only serves as a springboard to application. Longer term longitudinal follow up from high school into college would be critically important to track the effect of educational affiliation profiles on eventual college access and goal attainment. This could help build a case that such profiles are associated differentially with college going. The present study represents a beginning step in identifying and understanding some predictors of Latino adolescents' educational affiliation profiles within a relatively understudied emerging immigrant community.

References

- American College Testing. (2015). *The condition of college and career readiness 2014: Hispanic Students*. Retrieved from www.act.org/readiness/2014.
- Azmitia, M., & Cooper, C. R. (2001). Good or bad? Peer influences on Latino and European American adolescents' pathways through school. *Journal of Education for Students Placed at Risk*, 6, 45-71.
- Bandura, A. (1989). Social cognitive theory. In R. Vasta (Ed.), *Annals of child development Vol. 6: Six theories of child development* (pp. 1-60). Greenwich, CT: JAI Press.
- Baum, S., Ma, J., & Payea, K. (2013). *Education pays 2013: The benefits of higher education for individuals and society*. New York: The College Board.
- Benner, A. D., & Graham, S. (2011). Latino adolescents' experiences of discrimination across the first 2 years of high school: Correlates and influences on educational outcomes. *Child Development*, 82, 508-519. <http://doi.org/10.1111/j.1467-8624.2010.01524.x>
- Bronfenbrenner, U. & Ceci, S. J. (1994). Nature-nurture reconceptualized in developmental perspective: A biological model. *Psychological Review*, 101, 568-586.
- Collins, L. M., & Lanza, S. T. (2010). *Latent class and latent transition analysis for the social, behavioral, and health sciences*. New York, NY: Wiley.
- Delgado, M. Y., Ettekal, A. V., Simpkins, S. D., & Schaefer, D. R. (2015). How do my friends matter? Examining Latino adolescents' friendships, school belonging, and academic achievement. *Journal of Youth and Adolescence*, 1-16. DOI:10.1007/s10964-015-0341-x
- Eccles, J. S., Vida, M. N., & Barber, B. (2004). The relation of early adolescents' college plans and both academic ability and task-value beliefs to subsequent college enrollment. *The Journal of Early Adolescence*, 24, 63-77.

- Garriott, P. O., & Flores, L. Y. (2013). The role of social cognitive factors in Mexican American students' educational goals and performance: A longitudinal analysis. *Journal of Latina/o Psychology, 1*, 85–94. <http://doi.org/10.1037/a0032378>
- Gibbons, M., & Borders, L. D. (2010a). A measure of college-going self-efficacy for middle school students. *Professional School Counseling, 13*, 234-243.
- Gibbons, M., & Borders, L. D. (2010b). Prospective first-generation college students: A social-cognitive perspective. *The Career Development Quarterly, 58*, 194-208.
- Gonzalez, L. M., Stein, G. L., & Huq, N. (2013). The influence of cultural identity and perceived barriers on college preparation and aspirations of Latino youth in emerging immigrant communities. *Hispanic Journal of Behavioral Sciences, 35*, 101-118.
- Gonzalez, L. M., Stein, G. L., Kiang, L., & Cupito, A. M. (2014). The influence of support and discrimination on developmental competencies in Latino adolescents. *Journal of Latina/o Psychology, 2*, 79-91
- Goodenow, C. (1993). The psychological sense of school membership among adolescents: Scale development and educational correlates. *Psychology in the Schools, 30*, 79-90.
- Goodenow, C., & Grady, K. E. (1993). The relationship of school belonging and friends' values to academic motivation among urban adolescent students. *The Journal of Experimental Education, 62*, 60–71. <http://doi.org/10.1080/00220973.1993.9943831>.
- Greene, M. L., Way, N., & Pahl, K. (2006). Trajectories of perceived adult and peer discrimination among Black, Latino, and Asian American adolescents: Patterns and psychological correlates. *Developmental Psychology, 42*, 218–36.
- Johnson, L. S. (2009). School contexts and student belonging: A mixed methods study of an innovative high school. *School Community Journal, 19*, 99–118.

- Kena, G., Musu-Gillette, L., Robinson, J., Wang, X., Rathbun, A., Zhang, J., ... Velez, E. (2015). *The Condition of Education, 2015*. Washington, DC: National Center for Education Statistics.
- Krogstad, J. M. (2015). *Five facts about Latinos and education*. Retrieved from <http://www.pewresearch.org/fact-tank/2015/05/26/5-facts-about-latinos-and-education/>
- Kulikowich, J. M. (2007). Preface to the special issue: Applications of latent variable modeling in educational psychology research. *Contemporary Educational Psychology, 32*, 1-3.
- Malecki, C. K., & Demaray, M. K. (2002). Measuring perceived social support: Development of the Child and Adolescent Social Support Scale. *Psychology in the Schools, 39*, 1-18.
- McWhirter, E. H., Valdez, M., & Caban, A. R. (2013). Latina adolescents' plans, barriers, and supports: A focus group study. *Journal of Latina/o Psychology, 1*, 35–52.
- Muthén, B., & Muthén, L. K. (2000). Integrating person-centered and variable-centered analyses: Growth mixture modeling with latent trajectory classes. *Alcoholism: Clinical and Experimental Research, 24*, 882-891.
- Pastor, D. A., Barron, K. E., Miller, B. J., & Davis, S. L. (2007). A latent profile analysis of college students' achievement goal orientation. *Contemporary Educational Psychology, 32*, 8-47.
- Rivera, G. J. (2014). What high-achieving Latino students need to apply to college: Environmental factors, individual resiliency, or both? *Hispanic Journal of Behavioral Sciences, 36*, 284-300.
- Rivas-Drake, D., Hughes, D., & Way, N. (2008). A closer look at peer discrimination, ethnic identity, and psychological well-being among urban Chinese American sixth graders. *Journal of Youth and Adolescence, 37, 1*, 12-21.

- Roche, C., & Kuperminc, G. P. (2012). Acculturative stress and school belonging among Latino youth. *Hispanic Journal of Behavioral Sciences, 34*, 1, 61.
- Rosenbloom, S. R., & Way, N. (2004). Experiences of discrimination among African American, Asian American, and Latino adolescents in an urban high school. *Youth and Society, 35*, 420-451.
- Sánchez, B., Colón, Y., & Esparza, P. (2005). The role of sense of school belonging and gender in the academic adjustment of Latino adolescents. *Journal of Youth and Adolescence, 34*, 619–628.
- Santiago, D. A., Galdeano, E. C., & Taylor, M. (2015). *The condition of Latinos in education: 2015 factbook*. Washington, DC: Excelencia in Education.
- Seaton, E. K., Neblett, E. W., Cole, D. J., & Prinstein, M. J. (2013). Perceived discrimination and peer victimization among African American and Latino Youth. *Journal of Youth and Adolescence, 42*, 342-50.
- Sokatch, A. (2006). Peer influences on the college-going decisions of low socioeconomic status urban youth. *Education and Urban Society, 39*, 128-146.
- Steiner, J. (2011). *The relationship between middle school students' college-going beliefs and sense of belonging in school*. Retrieved from http://fisherpub.sjfc.edu/cgi/viewcontent.cgi?article=1040&context=education_etd
- Taggart, A., & Crisp, G. (2011). The role of discriminatory experiences on Hispanic students' college choice decisions. *Hispanic Journal of Behavioral Sciences, 33*, 22-38.
- Vaquera, E. (2009). Friendship, educational engagement, and school belonging: Comparing Hispanic and White adolescents. *Hispanic Journal of Behavioral Sciences, 31*, 492–514.

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Table 1

Fit Statistics comparing 2 to 6 profile solution of Education Affiliation

	AIC	A-BIC	Entropy	Bootstrapped LRT
2 profile	656.738	654.585	0.813	0.0013
3 profile	578.125	575.112	0.907	0.0001
4 profile	566.746	562.873	0.833	0.2677
5 profile	561.858	557.124	0.860	0.2596
6 profile	550.193	544.597	0.892	0.0772

Note. AIC = Akaike's Informational Criterion. A- BIC = Sample size adjusted Bayesian Information Criterion. LRT = Likelihood Ratio Test. The bolded numbers indicate the selected LPA 3-profile model.

Table 2

*Means and Overall Sample Means**College Going Self-Efficacy (CGSES) and School Belonging (PSSM) Conditional Response*

	Sample means	Profile 1: Low Educational Affiliation (<i>n</i> =16)	Profile 2: Moderate Educational Affiliation (<i>n</i> =59)	Profile 3: High Educational Affiliation (<i>n</i> =61)
Attendance (CGSES subscale)	2.87	1.74	2.61	3.45
Persistence (CGSES subscale)	3.10	1.90	2.87	3.69
School Belonging (PSSM scale)	3.88	3.49	3.66	4.22