Effects of Positive Assets and Socio-Economic Status on Academic Performance

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Objectives

Latinos are the largest minority group in the United States, 15.4% of the total population (U.S. Census Bureau, 2010). The Latino population is not only disproportionally young (38% under the age of 20) but it is also disproportionally poor (28.6% of those under the age of 18 live under the national poverty level) according to the U.S. Census Bureau (2010). Eamon and Mulder (2005) found that Latino youth face many developmental risks at the family, school and community level that prevent them from attaining higher levels of academic success. In their review of Latino youth development, Rodriguez and Morrobel (2004) found that most of the current research on Latino youth development focuses in the negative attributes and preventative measures associated with academic failures and involvement in risky behaviors. Rodriguez et al. also argue the need to a re-orientation of research to focus more on to investigate the social factors and positive assets that promote Latino youth to succeed and thrive. In their review of theory in positive youth development, Benson, Scales, Hamilton, and Sesma (2006) identified several essential and external assets at the family, community and school level that promote healthy youth development. The current study entails a multiple regression analysis of survey data that looks at the effects of family, community, school climate, and socio-economic status (SES) predictor measures on academic achievement for 6th, 9th, and 12th grade students who identified themselves as Mexican American or Chicano/a. It was found that all predictor indicators were associated with academic achievement for 6th and 9th grade students but only the family, community and SES measures were significantly associated with academic achievement for 12th graders. The database contains 10366 Minnesota Mexican American or Chicano/a youths from 6th, 9th, and 12th grade.

Perspectives

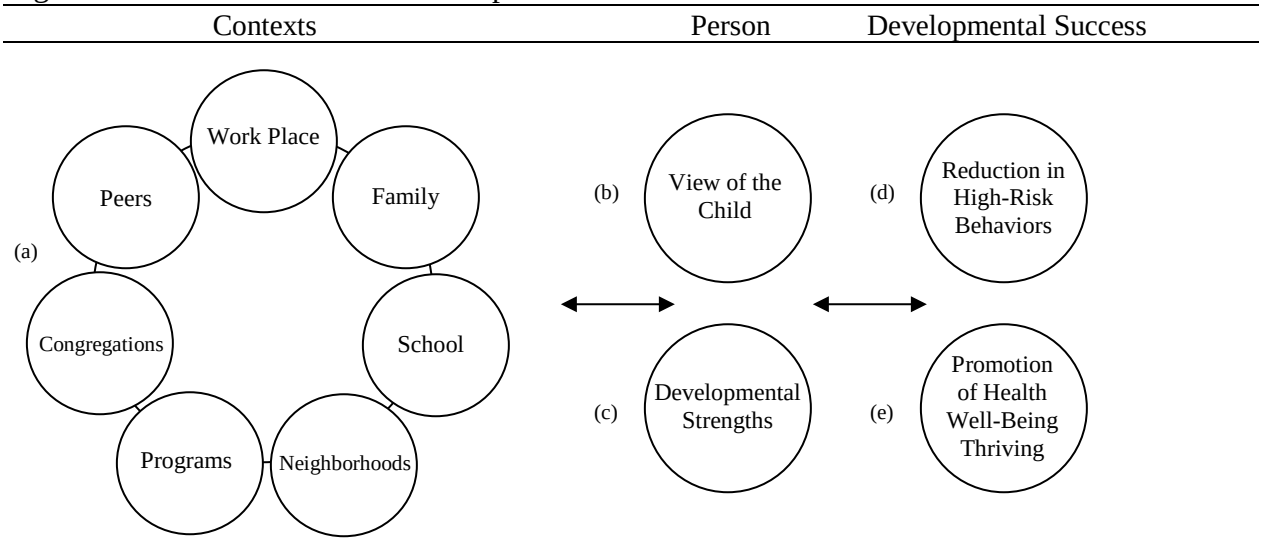
Positive Youth Development

In their comprehensive review of the theory and research on positive youth development, Benson, Scales, Hamilton, and Sesma (2006) identified six essential principles about which there is broad consensus, including (a) youth have the inherent capacity for positive development; (b) positive development is enabled through relationships, contexts, and environments that nurture development; (c) positive development is enhanced when youth participate in multiple meaningful relationships, contexts, and environments; (d) all youth benefit from these opportunities, the benefits of which generalize across gender, race, ethnicity, and family income; (e) community is a critical delivery system for positive youth development; and (f) youth themselves are major actors in their own development, serving as a central resource for creating the kinds of relationships, contexts, environments (ecologies), and communities that facilitate optimal development.

The core ideas on positive youth development involve those represented in Figure 1. The developmental contexts from an ecological perspective where youth are located (a) interact with the inherent capacity of youth to grow and thrive (b); their developmental strengths, skills,

competencies, values and dispositions (c); and two related aspects of developmental success, (d) the reduction of high-risk behaviors and (e) the promotion of healthy well-being or thriving (Benson, et al., 2006).

Figure 1. Core Positive Youth Development Constructs.



Source: Benson, Scales, Hamilton, & Sesma (2006)

Benson et al. (2006) also identified three theoretical strands that contribute centrally to the theory of youth development, an area that integrates multiple theoretical orientations, including human development, community organization and development, and social and community change. With respect to these, they cite Damon (2004) from his article "What is Positive Youth Development," who argued that a positive vision of youth potential has implications for research, education, and social policy. They also cite Lerner's (2002) statement that "changes across the life span are seen as propelled by the dynamic relations between the individual and the multiple levels of the ecology of human development (family, peer group, school, community, culture), all changing interdependently across time" (Lerner, as cited by Benson et al., p. 904). McLoyd (1998); Rodriguez and Morrobel (2004); Sesma and Roehlkepartain (2003); Spencer (1995), and others are investigating important cultural contexts relevant to the development of ethnic minority youth.

A Focus on Positive Assets and Academic Performance

As indicated above, the presence of positive developmental assets are essential for positive youth development (Benson, et al., 2006). It has been found that the greater number of positive assets, the higher academic success is acquired among youths (Scales, Benson, Roehlkepartain, Sesma, & Dulmen, 2006). Due to higher rates of low socio-economic status (U.S. Census Bureau, 2010) and facing many developmental risks, Latino youth fare worst on indicators of academic performance and educational attainment (Eamon et al., 2005). It has been argued that a focus on developmental assets leads to more stable and long-lasting positive effects in academic performance among youths (Rodriguez et al., 2004). Given low academic performance and high levels of high school dropouts among Latino youth, it is imperative to refocus research and

policy efforts on the development of positive assets to increase academic resilience among Latino youths. According to the U.S. Census Bureau, (2010), 25.3% of the Latino population between the ages 18 and 24 have dropped out of high school,

The current study investigates the relationship between the positive assets (family support, community support, school climate/safety, peer support, family communication and teacher/school staff support) and academic performance among Latino youths. More analysis will be included in the final version of this paper.

Methods & Data Source

Minnesota Student Survey (MSS). The current study entails a secondary analysis of the Minnesota Student Survey database. The survey was designed by an interagency team from the MN Departments of Education, Health and Human Services, Public Safety, and Corrections to monitor important trends and support planning efforts of local public school districts and the four collaborating state agencies. The MSS is administered every three years to students in 6^{th}, 9^{th}, and 12^{th} grades, for which we have data from 2004, 2007, and 2010. During each administration year, all operating public school districts are invited to participate, including correctional facilities housing youths. In 2004, 131,862 students participated; in 2007, 136,549 students participated; in 2010, 130,908 students participated. The diversity of the sample is quite good (for Minnesota) and increases across the three periods. In 2010, over 8% were Black, over 6% were Latino, over 6% were Asian, and 5% were American Indian. Because of the large sample, even the smallest group, 5% American Indian, included 6440 students.

Confirmatory Factor Analysis (CFA). For the creation of several scales (including family support, community support and school climate), the factor structures, based on factors expected from theory and prior research, were assessed through CFA. To complete the CFA for each measure, MPLUS 5.2 (Muthén & Muthén, 2007) was used. Measurement invariance of these scales across subgroups has been evaluated and these results are included in the paper.

Rasch Scaling. All measures were Rasch-scaled with Winsteps 3.67 (Linacre, 2008). Rasch scaling was used to create scale scores, providing scale (statistical) properties that make them stronger variables in General Linear Model (GLM) based analyses. Rasch scales move indices from an ordinal level of measurement to interval level. Rasch analysis also provides a strong tool to evaluate the rating scale structure of survey rating scale items and to estimate reliability of each measure.

Analysis. The statistical software R (Version 2.13.1) was utilized to conduct the analysis. The primary analysis of this paper is multiple regression analysis with the Community Support measure, Family Support measure, School Climate measure, and Free-Reduced lunch measure as the predictor indicators, and GPA as the outcome measure.

Results

A subset of 10366 cases (51.6 Males) from the 2004, 2007 and 2010 MSS were used to conduct the current analysis. All participants described themselves as Mexican American or Chicano/a. The participants that identified themselves as more than one ethnicity or race were excluded from the analysis. Table 1 presents the final breakdown of the descriptive information.

Table 1: Descriptive Statistics of Mexican American or Chicano/a Students by grade of the Minnesota Student Surveys 2004, 2007 and 2010. N = 10366.

Grade	Male (%)	Female (%)	GPA	N
6th Grade	51.5	48.5	2.56	4590
9th Grade	52.7	47.3	2.28	3995
12th Grade	49.6	50.4	2.55	1781

CFA showed that all 3 scales, Community Support, Family Support and School Climate are unidimensional and have adequate structures. Incremental fit indices, including the comparative fix index (CFI) and the mean square error of approximation (RMSEA) were used to indicate the adequacy of each model structure. For the 2010 MSS, the CFA model produced the following fit indices for the Community Support scale, CFI = .92 and RMSEA = .17; for the Family Support scale, CFI = .95 and RMSEA = .21; and for the School Climate scale, CFI = .94 and RMSEA = .13. Similar results were obtained from the 2004 and 2007 MSS (see Table 2).

Table 2. Incremental fit indices to indicate model structure

	MSS 2004		MSS 2007		MSS 2010	
	CFI	RMSEA	CFI	RMSEA	CFI	RMSEA
Community Support Scale	.93	.18	.92	.18	.92	.17
Family Support Scale	.95	.23	.95	.21	.95	.21
School Climate Scale	.93	.14	.94	.13	.94	.13

All measures were Rasch-scaled using a concurrent calibration across the years in which the survey was administered. Six items of the Community Support scale were submitted to Rasch analysis (Table 3). The item-difficulty parameters ranged -4.42 to 4.8 logits. Four items of the Family Support scale were also submitted to Rasch analysis (Table 3). The item-difficulty parameters ranged from -3.76 to 4.21 logits. Similarly, eight items of the School Climate scale were submitted to Rasch analysis (Table 3). The item-difficulty parameters ranged from -7.52 to 7.71. This indicates that consistent inferences can be made from each measure.

Table 3. Scale and item information for the Minnesota Student Survey (MSS)

Scale Name and Item Stem
Community Support
1-4 How much do you feel…
1. Friends care about you?
2. Teachers/other adults at school care about you?
3. Religious or spiritual leaders care about you?
4. Other adults in your community care about you?
5-6 How many of your teachers…
5. Are interested in you as a person?*
6. Show respect for the students?*
Family Support
1-2 How much do you feel…
1. Your parents care about you?
2. Other adult relatives care about you?
3. Can you talk to your father about problems you are having?*
4. Can you talk to your mother about problems you are having?*
School Climate
1-3 How many students in your school…
1. Are friendly?
2. Behave well in the hallways and lunchroom?
3. Have made fun of or threatened students of different races or backgrounds?*
4-7 How much do you agree or disagree with the following statements?
4. I feel safe going to and from school
5. I feel safe at school
6. Bathrooms in this school are a safe place to be
7. Students use of alcohol or drugs is a problem at this school*
8. During the last 30 days, how many days did you not go to school because you felt you would be unsafe at school or on your way to or from school?

Note: *Indicates that items were reverse coded.

Correlations Between Indicators

Pearson correlation was conducted to identify the associations between the predictor and outcome variables (Table 4). The results were obtained using participants from the MSS 2004, 2007 and 2010 in all 3 grade-levels that identified themselves as Mexican American or Chicano/a. GPA has a positive association with indicators of Family Support, Community Support and, it has a negative correlation with School Climate. In this case, the more negative the association with the School Climate indicator, the safer the school is perceived. FRL has a small and positive association with GPA. Family Support and Community Support have the strongest positive correlation.

Table 4: *Correlation matrix of predictor and outcome variables.*

	FRL	CS	SC	FS	GPA
Free/reduced-price lunch (FRL)	1				
Community Support (CS)	-.03*	1			
School Climate (SC)	-.04**	-.36**	1		
Family Support (FS)	.06**	.40**	-.25**	1	
GPA	.08**	.23**	-.18**	.20**	1

Note: *$p < .05$; **$p < .01$.

Multiple Regression Analysis

Regression results show that the predicted GPA, when controlling for all measure indicator, is in average 2.27 for 6th grade students, 2.07 for 9th graders and 2.41 for 12th grade students. Results also show that all indicators are statistically significant across all grades except School Climate for 12th grade students. The effect on GPA by the Community Support indicator increases as the school grade increases, .07 for 6th grade and .15 for 12th grade. However, the effect for the Family Support indicator decreases as grade increases, 0.7 for 6th grade and .05 for 12th grade. Across all 3 models, the amount of variation accounted for GPA is relatively small and similar; 6.2% for Model 6, 8.8% for Model 9 and 7.5% for Model 12. For a full illustration of the results refer to Table 5.

Table 5. Regression models predicting GPA among Mexican American or Chicano/a students by grade of the Minnesota Student Surveys 2004, 2007 and 2010. N = 10366.

	Model Gr6	Model 9	Model 12
	B (SE)	B (SE)	B (SE)
Intercept	2.27*** (.05)	2.07*** (.05)	2.41*** (.06)
Community Support (CS)	.07*** (.01)	.13*** (.02)	.15*** (.02)
School Climate (SC)	-.08*** (.01)	-.06*** (.01)	-.02 (.02)
Family Support (FS)	.07*** (.01)	0.08*** (.01)	.05** (.02)
Free/Reduced-Price Lunch (FRL)	-.13*** (.04)	-.19*** (.04)	-.08*** (.05)
R^2	6.2%	8.8%	7.5%

Note: ** $p < .01$; *** $p < .001$

Significance

The Latino population is the largest minority ethnic group in the U.S and it is disproportionally young and poor (U.S. Census Bureau, 2010). It is expected that by the year 2025, one out of four of all U.S. public school students will be of Latino origin (Gregory, 2003). Latino youths also face many developmental risks that prevent them from acquiring higher levels of academic achievement (Eamon and Mulder, 2005) and educational attainment (U.S. Census Bureau, 2010). Benson, Scales, Hamilton, and Sesma (2006) have identified principles that are essential for healthy youth development. However, there is minimal research that investigates developmental factors that help Latino youth thrive and succeed. This study investigates the effects of external positive assets of family support, community support, school climate and an indicator of SES on perceived GPA among Mexican American or Chicano/a youths. It was found that all predictor indicators were associated with academic achievement for 6th and 9th grade students but only Family Support, Community Support and FRL were associated with GPA for 12 grade students. Research such as ours will add knowledge in the area of positive development in the Latino population. They will be informational to other researchers, teachers, community leaders, family members and policymakers to make better-informed decisions to create an environment where Latino youths can succeed and strive.

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