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WHY TRY? ACHIEVEMENT MOTIVATION AND PERCEIVED ACADEMIC CLIMATE AMONG LATINO YOUTH

by

NATALIE J. WILKINS

Under the Direction of Gabriel Kuperminc

ABSTRACT

Elliot and McGregor's (2001) 2x2 model of achievement motivation (mastery-approach, mastery-avoidance, performance-approach and performance-avoidance) was used among 143 Latino adolescents to examine how achievement motivation relates to demographic factors (immigration age, gender, grade), perception of academic climate, and academic outcomes and how these associations change over time. Girls reported higher levels of mastery-avoidance achievement motivation and 8th graders reported a greater increase in mastery-approach achievement motivation over time. Perception of a task-focused academic climate moderated the association between mastery-approach achievement motivation and teacher-rated academic outcomes. The findings suggest 1) that Latino adolescents' gender and grade level relate significantly to their achievement motivation 2) that perception of a task-performance focused academic climate plays an important role in their academic achievement.

INDEX WORDS: Latino, Immigration, Achievement Motivation, School, Hispanic, Academic Climate, Academic Achievement, Youth, Adolescent

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NATALIE J. WILKINS

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Introduction

In the United States, Latino students rank lower than their peers in academic achievement outcomes such as grades (Pew Hispanic Center, 2004), high school graduation, and college enrollment rates (US Census Bureau, 2003). Nationally, Latino students accounted for 41 percent of high school dropouts in 2003 despite the fact that Latinos only account for 17 percent of the total youth population (US Census Bureau, 2003). In Georgia, high school dropout rates for Latinos are even higher than the national average at 50.4 percent (Governor's Office of Student Achievement, 2004).

Although studies have determined that Latino students in the U.S. are doing more poorly academically than many of their peers from other ethnic and cultural groups, there is little understanding of the reasons behind this phenomenon. Low levels of achievement motivation among Latino youth have been suggested as one of the possible factors contributing to low academic achievement outcomes (Evans & Anderson, 1973). Achievement motivation has been studied extensively in the field of psychology (McClelland, 1985; Dweck, 1988; Elliot & Harackiewics, 1996) and is generally thought to play an important role in academic achievement (McClelland, 1985; Dweck, 1988; & Elliot & Harackiewics, 1996).

Achievement motivation has been defined as the extent to which individuals differ in their need to strive to attain rewards, such as physical satisfaction, praise from others and feelings of personal mastery (McClelland, 1985). Theories of the underlying processes of achievement motivation range from a cognitive focus on individual personality traits and reaction to task difficulty (Pintrich, 1989) to more socially based views on the role that parenting has on the development of achievement motivation

(Evans & Anderson, 1973). These approaches to studying achievement motivation vary in theoretical framework, yet each approach views achievement motivation as a process that occurs at the individual level.

Limited research has focused on contextual factors that may influence the processes involved in achievement motivation. Some such contextual factors that exist *outside* of the school environment include culture, job opportunities and the affordability of higher education. Academic climate is a contextual factor that exists *inside* the school environment and includes things such as teachers' emphasis on grades versus effort and a classroom focused on competition versus collaboration.

Academic climate is an important factor to study because, unlike job opportunities and higher education affordability, it can be changed through relatively small-scale interventions. Furthermore, research has shown a link between academic climate and students' achievement motivation (Ryan, et al., 1998; Anderman & Anderman, 1999; Turner, et al., 2002).

Psychological research focusing on achievement motivation within minority cultures in the U.S. has been sparse. Other fields of the social sciences, such as sociology, *have* conducted studies to examine achievement motivation among some minority populations (Rumberger & Larson, 1998; Anderson & Evans, 1976; Eaton & Dembo, 1997; Evans & Anderson, 1973). Unfortunately, the findings from this work are limited because those researchers have tended to use grade point average (Rumberger & Larson, 1998), test scores (Eaton & Dembo, 1997; Rumberger & Larson, 1998) or parental focus on achievement (Anderson & Evans, 1976) as proxies for motivation. The use of such measures runs the risk of confounding achievement motivation with its presumed

outcomes. As will be discussed in the sections that follow, achievement motivation is better characterized as multidimensional, encompassing individual differences in learning goals and orientations toward learning.

Most studies on achievement motivation in psychology have also been cross-sectional rather than longitudinal. Although cross-sectional studies are helpful to determine differences in achievement motivation between different groups of individuals, they do not address the ways in which achievement motivation may change over time.

The goal of this study is to examine patterns of change in achievement motivation and perceived academic climate among Latino youth who are at varying levels of acculturation to U.S. culture (as measured by length of residence in the U.S.). This study will also examine the way in which perception of academic climate is involved in the association between achievement motivation and academic outcomes for Latino youth.

Defining Achievement Motivation

Achievement motivation has been defined in many different ways. Some researchers have described achievement motivation as a uni-dimensional construct in which individuals are characterized as being at "high" or "low" ends of a motivational continuum (McClleland, 1988). McClleland (1988) suggests that individuals with low achievement motivation have high levels of either *affiliation motivation* or *authority and power motivation.* Individuals with high achievement motivation are primarily concerned with how well they are doing, while individuals with high affiliation motivation concentrate more on the way people feel about them. Individuals with high authority and power motivation are most interested in increasing personal status and prestige.

Other researchers have described achievement motivation as a dynamic, multidimensional construct. Dweck and Leggett (1988), propose a *goal-centered* theory in which they explain that different kinds of achievement motivation manifest depending on the type of goals an individual is pursuing. *Mastery goals*[1] have to do with mastering a particular task, learning skills and seeking intrinsic rewards. *Performance goals*, on the other hand, have to do with demonstrating one's ability in performing a task, gaining positive evaluation from others and seeking extrinsic rewards. It has been found that individuals who seek mastery goals have more positive performance outcomes such as challenge seeking, and mastery-oriented responses to failure than individuals who maintain a more performance goal orientation (Dweck & Leggett, 1988).

Elliot and Church (1997) elaborated on this goal-centered theory of achievement motivation by examining the influence of *approach* versus *avoidance* achievement orientations on performance and mastery goal outcomes. Individuals who demonstrate approach achievement orientation tend to pursue challenging goals and value competence and competition. Individuals who demonstrate avoidance achievement orientation, however, tend to avoid ability assessment and competition and do not place a high value on competence. Elliot and Church found that for individuals with performance goals, those who demonstrated an avoidance achievement orientation showed lower levels of academic performance than individuals who demonstrated an approach achievement orientation. These findings suggest that among students who are focused on performance

[1] Dweck and Elliot actually use the term *Learning Goals* to describe these skill-focused, intrinsically based goals but for the sake of consistency and clarity, Elliot and Harackiewicz's (1996) term *Mastery Goals* will be used in this paper.

goals, those who also hold an avoidance achievement orientation are at a higher risk for poor academic outcomes than those with an approach achievement orientation.

In another study, McGregor and Elliot (2002) found that individuals with mastery achievement goals had the most positive outcomes for exam preparation and calmness before exam taking. Individuals with performance goals and approach achievement orientation also demonstrated somewhat positive outcomes for exam preparation and calmness before exam taking, although these outcomes were not as positive as those with mastery-approach orientation. Finally, individuals with performance goals and an avoidance achievement orientation had the most negative outcomes for both exam preparation and calmness before exam taking. These findings suggest that individuals with performance goals and avoidance achievement orientation are most at risk for negative academic outcomes and individuals with mastery goals and approach achievement orientation are most likely to show positive academic behavior

Academic Climate

Researchers who study achievement motivation from a goal-oriented approach also argue that social context may play an important role in the determination of achievement goals. Dweck and Leggett (1988) argued that in the school setting it is important for students to earn the positive judgment of those who control important resources, such as grades. Thus, the school context often pressures individuals toward maintaining performance goals. They also stipulate that variations in classroom climate (e.g., teachers' emphasis on student ability vs. effort) may play a role in shaping students' learning goals (Elliot and Dweck, 1988).

Elliot and Dweck (1988) studied a sample of 101 fifth graders who were randomly assigned to either a *task-performance* oriented context, in which an emphasis was placed on performance goals and students' performance on a task, or a *task-mastery* oriented context, in which an emphasis was placed on learning goals and students' mastery of a task. It was found that when students were placed in a *task-performance* context, they tended to explain failure as being due to their own negative personal attributes. These students also demonstrated more negative affect and task withdrawal when task failure was experienced. Students who were placed in the *task-mastery* context, however, demonstrated similar levels of achievement-oriented behavior regardless of task failure. These students also demonstrated more sophisticated, mastery-oriented behaviors when task failure was experienced. In this study, contextual emphasis on task performance versus task mastery predicted achievement goals and behavior showing that an academic climate in which effort and mastery are focused on is more likely to foster positive achievement-oriented behavior among students when they face failure on school tasks.

Further elaborating Elliot and Dweck's (1998) findings, Anderman and Anderman's (1999) study of 660 fifth and sixth grade students found that students who focused on effort-oriented goals perceived their school climate to be both task and ability-focused. Students who focused on performance-oriented goals, however, perceived their school climate to be predominantly ability-focused. These findings suggest that students with performance goals are more likely to perceive their academic climate as ability-focused. Thus, these findings combined with those of Elliot and Dweck (1998) indicate an association between perceived academic climate and achievement

motivation, as well as a relation between perceived academic climate and academic outcomes.

Research has also shown that academic climate affects academic achievement. Roeser and Eccles (1998) examined students who perceived the same academic climate in two different ways. Some students perceived the academic climate to be *task-focused*, focusing primarily on effort (similar to a *task-mastery* climate as described in the previous paragraph). These students reported positive teacher regard and an emphasis on individual improvement. Other students perceived the academic climate to be *ability-focused* (similar to a *task-performance* climate as described previously), focusing primarily on performance. These students reported that teachers treated students differentially according to ability and emphasized competition in the classroom. Students who perceived a *task-focused* school climate also showed increases in academic achievement (as measured by grades) and academic values, whereas students' who perceived an *ability-focused* school climate demonstrated significantly lower levels on both academic outcomes. This study shows that students who perceive their academic climate to be more effort-focused demonstrate better academic outcomes than students who perceive their academic climate to be more ability-focused.

Other researchers have examined how changes in the social and academic structures of schools during school transitions affect achievement motivation (Ryan, et al., 1998; Turner, et al., 2002). Ryan and colleagues' (1998) study of sixth grade students from three middle schools found that students who avoided seeking help were more likely to show high academic efficacy when teachers attended to their social and emotional needs in the classroom. Turner and colleagues (2002) examined how

classroom structure affects students' propensity to use avoidance strategies when learning math and found that students with teachers who focused on *mastery goals* exhibited less avoidance in learning novel concepts in their math classes. Both of these studies demonstrate ways in which students' perception of their academic climate have been shown to relate to their achievement motivation and academic performance.

Previous research indicates an association between perceived academic climate and achievement motivation, as well as a relation between perceived academic climate and academic outcomes. Studies have not, however, examined the implications of the association between perceived academic climate and achievement motivation on academic outcomes.

Cultural Implications

Studies focusing on differences between ethnic groups have historically been used to examine the role of culture in psychological processes (Suarez-Orozco & Suarez-Orozco, 1995; Rumberger & Larson, 1998; Kao & Tienda, 1998; Anderson & Evans, 1976; Eaton & Dembo, 1997; Evans & Anderson, 1973). Cross-cultural designs, however, often neglect within group variation. Moreover, findings from cross-cultural studies have often been used to label the behavior and traits of minority ethnic groups as less desirable than those of the dominant culture (Cauce, Coronado, & Watson, 1998). Studies that examine differences within a particular group have the potential to reveal complex explanations for variations in traits and behaviors that exist among members of a particular group. Following the within groups perspective, the current study focuses on differences among Latino adolescents who immigrated to the U.S. at different ages and can be described as functioning at varying stages of acculturation to U.S. culture.

Immigration Age and Achievement Motivation

Immigration age has been shown to influence many different psychological and social phenomena. Suarez-Orozco and Suarez-Orozco (1995) examined differences in achievement motivation among Latino adolescents with two different immigration backgrounds, adolescents who emigrated from Mexico and were now living in the U.S., and U.S. born Mexican-American adolescents. The sample also included Mexican adolescents living in Mexico and White American adolescents. It was found that Mexican and Mexican immigrant adolescents showed higher levels of intrinsic motivation, more goals focused on skill-acquisition, more positive descriptions of their school environment and more positive relationships with teachers than their U.S. born Mexican-American and White American peers.

These findings show that Mexican immigrant adolescents are more successfully adjusted to their school environment than U.S.-born Mexican American adolescents. They also suggest that for Latino adolescents living in the U.S., achievement motivation, goals, and perception of academic climate are all affected by their stage in the acculturation process (immigrant versus U.S. born).

Person-Environment Fit

This study was conducted from a theoretical framework focused on the importance of person-environment fit. Person-environment fit in educational settings has been described by Eccles, et al. (1996) as the way in which students' academic motivation correlates with the extent to which the environment surrounding them fits their needs. According to this perspective, Eccles suggests that negative motivational consequences can be expected from students' whose academic environments do not meet their

psychological, social and developmental needs.

The present study examined patterns of change over one year in achievement motivation for Latino adolescents from immigrant families. Following the person-environment fit perspective, the present study examined the way in which an individual characteristic (achievement motivation) and contextual factors (perceived academic climate) contribute to either a positive or negative "fit" as implied by variations in academic performance. For example, individuals who emphasize performance goals are likely to suffer declines in performance if they perceive a task-performance academic climate. This performance decline would indicate a negative person-environment fit because the individual is focused on performing their skills for others, which, combined with an environment that is also focused on task performance, often leads to inability to cope with failure and thus achieve academically after inevitable set-backs are encountered.

The Present Study

The primary goal of the present study was to examine variations in achievement motivation and perception of academic climate among Latino adolescents who differ in the length of time spent in the U.S. and how motivational and contextual factors change over a one-year interval. Although previous research has examined associations between immigration age, differences in achievement motivation styles and differences in perceived academic climate (Suarez-Orozco and Suarez-Orozco, 1995), research has not addressed these processes longitudinally. Previous research on achievement motivation among Latino adolescents has also not examined achievement motivation using the multifaceted model that will be used in this study, which includes mastery-goal oriented,

performance-goal oriented, approach oriented and avoidance oriented achievement motivation (Suarez-Orozco and Suarez-Orozco, 1995).

A second goal was to examine the direct and interactive contributions of achievement motivation and perceived academic climate to changes in achievement related academic outcomes over time. Specifically, this study considered teacher perceptions of students' task orientation and the likelihood of them graduating high school and going to college as academic outcomes that were expected to be linked to student motivational processes. Previous research has examined the association of achievement motivation with perceived academic climate (Elliot & Dweck, 1988), as well as the association of perceived academic climate with academic outcomes (Anderman & Anderman, 1999). Past studies have not, however, looked at the way in which perceived academic climate may *moderate* the relationship between achievement motivation and academic outcomes. Past research has also often neglected to ask questions about differences in achievement motivation and perceived academic climate among *Latino* adolescents.

The first question addressed in this study was: How do achievement motivation and perception of academic climate change for Latino adolescents from immigrant families as a function of time spent in the U.S.? To address this question, *time spent in the U.S.* was addressed in two ways (a) *Cross-sectionally*: By measuring the amount of time spent living in the U.S. (immigration age) and (b) *Longitudinally*: By measuring changes over a one year interval. A second question that this study addressed was whether the influence of achievement motivation on academic outcomes depends on perception of academic climate among Latino adolescents.

I. Immigration Age, Achievement Motivation and Perceived Academic Climate Over Time.

In this study, Immigration age of Latino adolescents was broken down into four categories: 1) U.S. born, 2) U.S. reared (those who arrived in the U.S. before the age of five), 3) Child Immigrant (those who arrived in the U.S. between the ages of five and 11), and 4) Youth Immigrant (those who arrived in the U.S. after the age of 11). The study examined the following hypotheses:

1. Mastery goal/approach-oriented achievement motivation will be higher among Child Immigrant and Youth Immigrant adolescents than among U.S. reared and U.S. born adolescents.
2. Performance goal/avoidance-oriented achievement motivation will be higher among U.S. reared and U.S. born adolescents than among Child Immigrant and Youth Immigrant adolescents.
3. Perception of a task-performance academic climate will be higher among U.S. born and U.S. reared adolescents than among Child Immigrant and Youth Immigrant adolescents.

It is difficult to make specific hypotheses about the changes that may occur in these relationships over time due to the lack of longitudinal research on processes of achievement motivation and perceived academic climate. It was expected, however, that:

4. Child Immigrant and Youth Immigrant adolescents will maintain higher levels of mastery-goal/approach-oriented achievement motivation over time than their U.S. born and U.S. reared peers.

5. U.S. born and U.S. reared adolescents will maintain higher levels of performance-goal/avoidance-oriented achievement motivation over time than their Child Immigrant and Youth Immigrant peers.

Achievement Motivation, Perceived Academic Climate and Academic Outcomes.

This study also aimed to expand on the findings of McGregor and Elliot (2002) in two ways. First, it examined the way perceived academic climate may effect the relationship between achievement motivation and academic outcomes. Second, it explored the ways achievement motivation and perception of school climate relate to academic outcomes *over time*. More specifically, it examined the following hypotheses:

6. Among adolescents who demonstrate high levels of performance goal/avoidance-oriented achievement motivation, those who perceive a highly task-performance academic climate will show lower academic outcomes than students who do not perceive a highly task-performance academic climate.
7. Adolescents who demonstrate high levels of performance goal/approach-oriented motivation will have stable academic outcomes regardless of whether or not they perceive a highly task-performance academic climate.
8. Adolescents who demonstrate high levels of mastery goal/approach or mastery goal/avoidance-oriented achievement, will have stable academic outcomes regardless of whether or not they perceive a highly task-performance academic climate.

Method

Participants

Participants were 196 Latino adolescents ages 12-14 from the seventh and eighth grades of a public middle school in Atlanta, Georgia. The sample consisted of 110 females (56%) and 84 males (43%). One hundred two (52%) of the participants were seventh graders and 94 were eighth graders (48%). One hundred and fifty-six (80%) of the adolescents in the sample were immigrants who were born outside of the United States and 40 (20%) were born in the US. Of those participants who were born in other countries, 37 (19%) immigrated to the US when they were less than five years old, 69 (35%) immigrated between the ages of five and 11, and 53 (27%) were 12 years or older than when they immigrated.

Procedure

Middle school students were recruited by researchers who visited classrooms during school. The study was explained to students by the researchers and students were invited to take part in the study if they identified themselves as Latino/a or Hispanic. Students were told that they could participate regardless of whether they spoke Spanish or whether they were born in the US or another country. Participants were also recruited at an information table in the school cafeteria. Students were recruited in Spanish and in English, and parent consent forms were written in both Spanish and English. As an incentive for their participation, students were offered a free movie ticket for completing the survey.

To aid in reading comprehension, members of the research team administered the questionnaire to participants by reading each question aloud. Spanish translations of all

measures were created using a process of initial translation, back-translation, and centering (Barona & Barona, 1999). The questionnaire assessed participants' perceptions of and level of functioning in a variety of domains including school, neighborhood, family, peer group, and emotional functioning. Data from surveys assessing achievement motivation, perceptions of school climate, and academic outcomes will be used in this study. Demographic information such as age of immigration, gender, and grade level was also collected through self-report, and students' grades were obtained from school records.

Measures

Academic Climate: Academic climate was measured by examining students' perception of their school context. Roeser & Eccles's (1998) *Academic Climate Questionnaire* was used to measure students' perception of their academic climate. The items were developed and validated in a large (*N*= 1046), multi-ethnic sample consisting primarily of white and African-American adolescents from the seventh and eighth grades (Roeser & Eccles, 1998). The present study includes 6 items assessing the extent to which students' perceive their school environment to be task-mastery based, focusing on effort and academic improvement versus task-performance based, focusing on ability and fixed academic status. Items on the Academic Climate Questionnaire have answers on a four-point Likert-scale ranging from "not at all true" to "very true." Items measuring task-performance school climate include, "Teachers treat students who get good grades better than any other students" and "Teachers only care about the smart kids." Items measuring task-mastery school climate include, "Everyone can get good grades if they do their very best" and "Teachers think how much you earn is more important than test

scores or grades." The internal consistency of task-performance school climate items is *a*= .68. The internal consistency for the task-mastery school climate items is *a*= .21. The low reliability of the task-mastery climate measure appears to be a function of high mean scores and little variability in the items, suggesting that most students perceive that their efforts are valued and acknowledged by teachers. However, the measure was not used in the present study because of its low internal consistency.

Achievement Motivation: Achievement motivation was measured in this study using a multidimensional approach based on constructs of achievement motivation present in recent literature (Dweck & Leggett, 1988; McGregor & Elliot, 2002). Four items from Elliot and Church's (1997) *Achievement Goals Questionnaire* were used to assess mastery-approach, mastery-avoidance, performance-approach and performance-avoidance forms of achievement motivation. Responses were measured on a four-point Likert-type scale ranging from "not at all true" to "very true." The item used to measure mastery-approach achievement motivation was, "I like to work on things that are interesting even if they are hard to do." Mastery-avoidance achievement motivation was measured by the item, "I worry that I will not be able to do some things even though they are interesting." Performance-approach achievement motivation was measured by the item, "It is important for me to do better than other students," and performance-avoidance achievement motivation was measured by the item, "I worry that I might do worse than other kids." Factor analyses from three separate studies using the longer version of this scale have shown the existence of four different, independent facets of achievement motivation (Elliot & McGregor, 2001). The four-item version used in the present study

has been validated by the authors for use with middle school students (Elliott, et al., in preparation).

Achievement Outcomes: Achievement outcomes were measured by teacher-ratings of (1) Task Orientation (students' ability to focus on tasks) and (2) Teacher Expectations (likelihood of student graduating high school/attending college). Both task orientation and teacher expectations were measured by asking teachers the extent to which items described the student in question on a five-point Likert scale ranging from "Not at all" to "Very Well". Task orientation consisted of five items from the Teacher-Child Rating Scale (Hightower, et al., 1986): Completes work; Well organized; Functions well even with distractions; Works well without adult support; and A self-starter, $\alpha = .95$. Teacher expectations consisted of two items: How likely is this student to graduate from high school?; How likely is this student to go to college?, $\alpha = .88$.

Results

Missing Data Analysis

Prior to conducting primary analyses, missing data was checked for. Teacher ratings on academic expectations and task orientation were missing for 39 out of 143 cases (27.3%) due to teachers failing to fill out ratings for students in the study at time 2. Efforts were made to gather these data from 1 teacher per participating student, and there were no procedural reasons that some teachers complied with the request for these data while others did not; however, Little's (1998) test revealed that the data was not missing completely at random (MCAR). This is not thought to lessen the integrity of the analyses because MCAR is typically considered necessary only when data have been intentionally

omitted due to its being too difficult, unethical or too expensive to collect (Allison, 2001).

To strengthen the assumption that teacher ratings were missing at random (MAR), a logistic regression was performed. Year 1 variables and covariates were entered into the logistic regression as independent variables and were regressed on a dummy variable coding whether data was missing or not for teacher expectations and task orientation (the two dependent variables). This analysis showed that missing data did not demonstrate significant patterns with any of the variables included in the model, X^2 (8)= 8.04, *p*= .43. It was therefore concluded that outcome variables for the dataset were missing at random.

Plan of Analysis

Analyses were conducted in two steps. The first was a repeated measures analysis of variance (RM-ANOVA) that examined the associations between immigration age, four levels of achievement motivation, and perception of academic climate over time. The second set of analyses consisted of four hierarchical regressions that examined the moderating effect of perception of academic climate on the association between achievement motivation and academic outcomes.

Correlation Analysis

Table 1 shows correlations between both year 1 and year 2 variables. All year 1 variables were positively correlated with their time 2 counterparts (*r*s ranged from .21 to .37), indicating moderate stability in motivational orientation over time. Most of the correlations among the measures of achievement motivation were significant and positive, ranging from weak to moderate. Perception of a task-performance academic climate at Year 1 was positively correlated with mastery-approach achievement

Table 1. Correlations between Year 1 and Year 2 Variables

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Mastery Approach Y1	1													
2	Mastery Approach Y2	31**	1												
3	Mastery Avoidance Y1	.28**	.13	1											
4	Mastery Avoidance Y2	.02	.15	.26**	1										
5	Performance Approach Y1	.19*	-.01	.18*	.08	1									
6	Performance Approach Y2	.09	.21*	-.02	.21*	37**	1								
7	Performance Avoidance Y1	.18*	.15	.48**	.19*	.23**	.05	1							
8	Performance Avoidance Y2	.13	.11	.20*	.46**	.29**	.38**	.21*	1						
9	T-Performance Climate Y1	-.17*	-.14	-.08	-.04	.03	.08	-.05	-.05	1					
10	T-Performance Climate Y2	.04	-.06	-.01	.10	.05	.12	-.02	-.02	.33**	1				
11	TR Expectations Y1	.05	.20*	-.05	.01	-.10	.06	.18*	.00	-.14	-.03	1			
12	TR Expectations Y2	.18*	.15	-.13	-.08	-.16	-.01	.04	.00	-.27**	-.15	.49**	1		
13	TR Task Orientation Y1	-.02	18*	-.10	.07	-.13	.05	.04	.03	-.20*	-.08	.72**	.40**	1	
14	TR Task Orientation Y2	.12	.12	-.02	-.03	-.16	-.02	.11	.00	-.26**	-.18*	.43**	.82**	.44**	1

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

motivation at Year 1, but there were no other significant correlations of academic climate with other measures of achievement motivation. Task orientation and teacher expectations, the two outcome variables, were highly, positively correlated with each other, showing that teachers held high expectations for students who they rated as very task oriented, and vice versa.

Overall, the outcome variables were negatively correlated with perception of a task-performance academic climate indicating that teachers reported lower levels of task orientation and had lower expectations for adolescents who perceived a strong emphasis on grades in the classroom. The outcome variables were also positively correlated with mastery-approach achievement motivation, indicating that teachers have higher expectations for adolescents who demonstrate high levels of mastery-approach achievement motivation and also perceive them to be highly task oriented.

Changes in Motivation and Academic Climate

Four Repeated Measures ANOVA (RM-ANOVA) were used to examine differences in the four levels of achievement motivation (mastery-approach, mastery-avoidance, performance-approach and performance-avoidance), and perception of task-performance academic climate over time. Gender and grade level were significant predictors of achievement motivation and academic climate and were entered into the RM-ANOVA as covariates. Immigration age was a between subjects factor with 4 levels: U.S. born, U.S. reared (immigrated when less than five years old), child immigrant (immigrated between five and 11 years old), and youth immigrant (immigrated after 11

years of age). Time of participation in the study (Year 1 and Year 2) was a within-subjects factor.

Table 2 shows the means and standard deviations for the four levels of achievement motivation and perception of a task-performance academic climate at year 1 and 2.

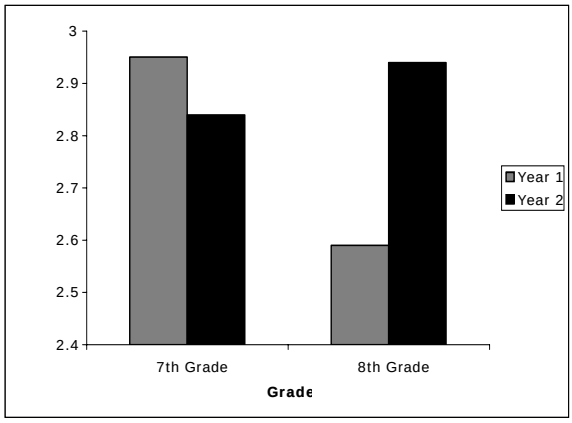
Table 2. Means and Standard Deviations for Achievement Motivation and Perception of Academic Climate Over Time

	Total	US Born *(n= 30)*	<5 years *(n= 25)*	5-11 years *(n= 47)*	12+ years *(n= 38)*
Mastery Approach					
Year 1	2.79(.08)	2.93(.18)	2.50(.20)	2.77(.15)	2.85(.17)
Year 2	2.87(.08)	2.97(.17)	2.86(.18)	3.08(.14)	2.62(.16)
Mastery Avoidance					
Year 1	2.64(.09)	2.49(.18)	2.36(.20)	2.51(.15)	3.00(.18)
Year 2	2.52(.08)	2.25(.17)	2.40(.19)	2.60(.14)	2.66(.16)
Performance Approach					
Year 1	2.60(.09)	2.63(.19)	2.22(.22)	2.52(.16)	2.85(.19)
Year 2	2.49(.09)	2.64(.18)	2.29(.20)	2.42(.15)	2.55(.18)
Performance Avoidance					
Year 1	2.47(.09)	2.43(.19)	2.38(.21)	2.67(.16)	2.34(.18)
Year 2	2.35(.08)	2.33(.17)	1.91(.19)	2.42(.14)	2.48(.16)
Performance Climate					
Year 1	2.67(.07)	2.76(.15)	2.64(.17)	2.49(.12)	2.55(.14)
Year 2	2.46(.07)	2.46(.15)	2.36(.17)	2.29(.12)	2.61(.14)

Mastery Achievement Motivation.

As shown in Figure 1, there was a significant time x grade level interaction, $F(1, 134)= 5.11$, $p<.05$ For mastery-approach achievement motivation. This interaction indicates that seventh graders become less mastery-approach achievement oriented over time, whereas eighth graders (who transitioned to high school between Years 1 and 2) become more mastery-approach achievement oriented over time. The time x immigration age and time x gender interactions did not reach significance for mastery-approach achievement motivation.

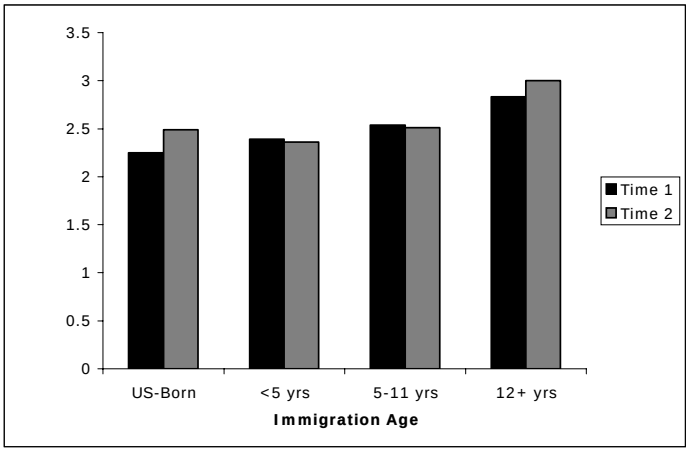
Figure 1. Mastery-Approach Motivation Means for Time X Grade



There was a significant main effect of gender on mastery-avoidance achievement motivation $F(1,133)= 6.53$, $p<.05$. Girls ($M= 2.64$, $SD= .08$) had significantly higher levels of mastery-avoidance achievement motivation than boys ($M= 2.41$, $SD= .10$). Mastery-approach achievement motivation also increased significantly over time $F(1,135)= 4.92$, $p<.05$. Adolescents had significantly lower levels of mastery-approach achievement motivation at Year 1 ($M= 2.79$, $SD= .08$) than at Year 2 ($M= 2.87$, $SD= .08$).

As shown in figure 2, the main effect of immigration age on mastery-avoidance achievement motivation approached significance, $F= 2.24(3, 133)$, $p< .10$, suggesting that adolescents who immigrated to the U.S. more recently had higher levels of mastery-avoidance achievement motivation than adolescents who were either born in the U.S. or immigrated at a young age. There were no significant interactions between immigration age or covariates and time for mastery-avoidance achievement motivation.

Figure 2. Mastery Avoidance Means for Immigration Age



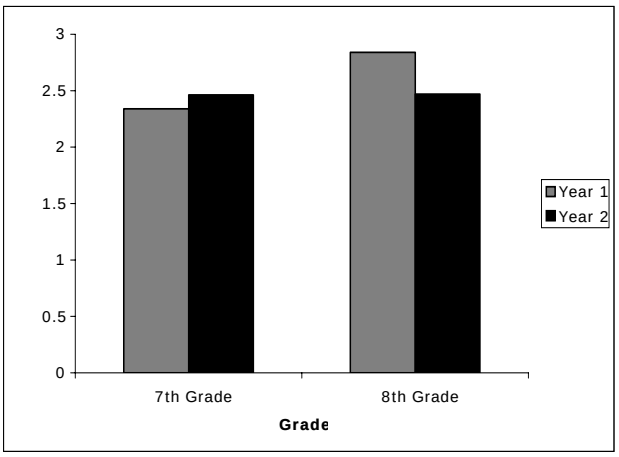
Performance Achievement Motivation.

Neither main effects nor interactions reached significance for performance-approach or performance avoidance achievement motivation. Findings suggest that patterns of change in both forms of performance achievement motivation over time do not differ significantly for adolescents based on their age of immigration, gender or grade level.

Perception of Task-Performance Academic Climate.

There was a significant Time x Grade interaction for perception of task-performance academic climate, $F(1,136)= 6.53$, $p<.05$ (see figure 3). This indicates that seventh graders perceive their academic climate to be more focused on grades and performance outcomes over time, whereas eighth graders perceive their academic climate to be less based on performance and grades over time. This interaction occurs in the context of an overall decrease in perception of a task-performance academic climate from Year 1 to Year 2. The Time X Immigration Age and Time x Gender interactions did not reach significance for task-performance academic climate.

Figure 3. Task-Performance Academic Climate Means for Time x Grade



Moderating Effects of Academic Climate

Four hierarchical regression analyses were conducted to determine whether perception of a task-performance academic climate moderated the association between achievement motivation and teacher-rated academic outcomes. The analyses were prospective, such that Year 1 measures of achievement motivation and academic climate were examined as predictors of subsequent teacher rated academic outcomes at Year 2. The first two regression analyses examined mastery achievement motivation as a predictor of change in teacher expectations (regression 1) and teacher-rated task orientation (regression 3). The second two regressions examine performance achievement motivation as a predictor of change in teacher expectations (regression 2) and teacher-rated task orientation (regression 4).

In all four analyses, covariates were entered into Step 1 (teacher-rated expectations/task-orientation at Year 1, grade, gender, and immigration age). Then, the appropriate approach and avoidance forms of achievement motivation at Year 1 were entered into Step two (for regressions 1 and 2, mastery-approach and mastery-avoidance; for regressions 3 and 4, performance-approach and performance-avoidance). Finally, in

Step 3, interaction terms for Approach X Task-Performance Climate and Avoidance X Task-Performance Climate were entered into the equation. These interaction terms were calculated by mean-centering each achievement variable and task-performance climate variable and then multiplying them together.

Mastery Achievement Motivation.

Table 3 shows the results for the regression examining the relationship between mastery-approach and mastery-avoidance achievement motivation and teacher-rated academic outcomes. The overall regression models for mastery motivation accounted for 38% of the variance in teacher-rated academic expectations and 28% of the variance in teacher-rated task orientation. Mastery-avoidance achievement motivation was associated with declines in teacher's expectations from Year 1 to Year 2.

Table 3. Standardized Regression Weights of Mastery-Approach/Mastery-Avoidance Achievement Motivation and Teacher-Rated Academic Outcomes

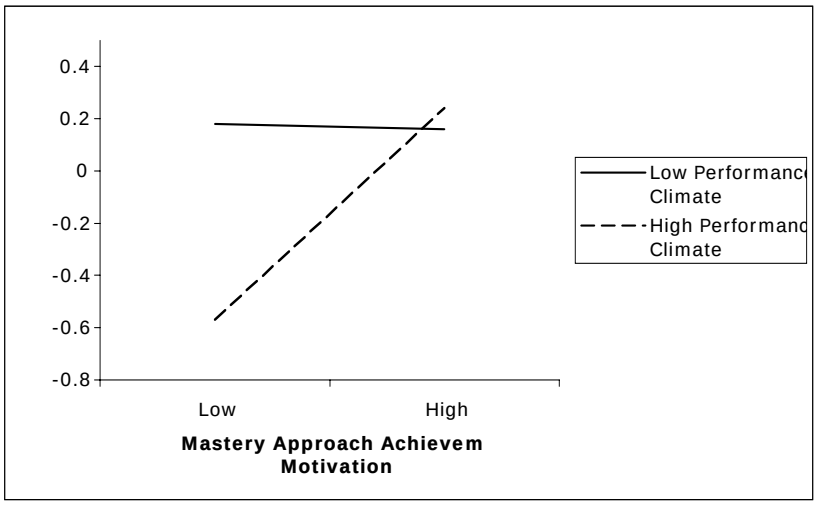
	Teacher Expectations Y2	Task Orientation Y2
TR expectations Y1	.49***	--
TR task orientation Y1	--	.44***
Grade	-.08	-.07
Gender	.02	-.03
Immigrated at <5 years	-.04	-.04
Immigrated at 5-11years	-.10	-.02
Immigrated at 12+ years	-.16	-.13
ΔR^2 for Step 1	.27***	.21***
Mastery approach	.19*	.10
Mastery avoid	-.16*	.09
Task-Performance Climate	-.19*	- .10+
ΔR^2 for Step 2	.08**	.04+
Mastery approach x Task-Performance Climate	.21**	.10*
Mastery avoid x Task-Performance Climate	-.07	.10
ΔR^2 for Step 3	.04*	.03+
Total R^2	.38*	.28+

Note: Coefficients are standardized regression weights from the final model.
+p<.10 *p<.05 **p<.01 ***p<.001

After accounting for grade level, gender and immigration age, the interaction between mastery-approach achievement motivation and task-performance academic climate was a significant predictor of teacher expectations (R^2= .38, $ß$= .21). Figure 4 illustrates this interaction demonstrating that for students with perceptions of a task-performance academic climate 1 standard deviation above the mean, mastery approach achievement motivation was associated with increases in teacher expectations. In contrast, for students with perceptions of a task-performance academic climate 1 standard deviation below the mean, there was no association of mastery approach achievement motivation and teacher expectations. Thus, perception of a low performance-focused

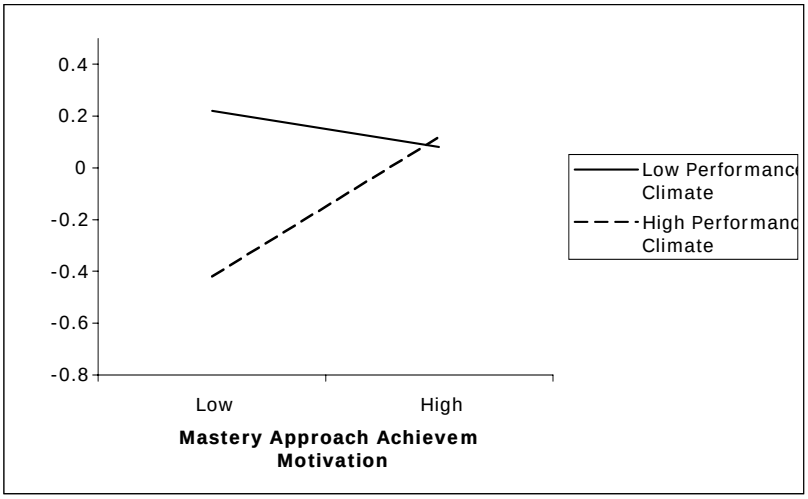
academic climate appears to act as a buffer for the negative effects of low mastery-approach achievement motivation

Figure 4. Moderating Effect of Task-Performance Academic Climate on the Relationship Between Mastery-Approach Achievement Motivation and Teacher Expectations



There was also a significant interaction between mastery-approach achievement motivation and task-performance academic climate (R^2= .28, *ß*= .10). This interaction is illustrated in figure 5 and shows that for students with perceptions of a task-performance academic climate 1 standard deviation above the mean, mastery approach achievement motivation was associated with increases in teacher-rated task orientation. In contrast, for students with perceptions of a task-performance academic climate 1 standard deviation below the mean, there was no association of mastery approach achievement motivation and teacher-rated task orientation. Yet again, perception of a low performance-focused academic climate seems to act as a buffer for the negative effects of low mastery-approach achievement motivation.

Figure 5. Moderating Effect of Performance Academic Climate on the Relationship Between Mastery-Approach Achievement Motivation and Task Orientation



Performance Achievement Motivation.

Table 4 shows the results for the regression examining the relationship between performance-approach and performance-avoidance achievement motivation, and teacher-rated academic outcomes. The overall regressions for performance motivation accounted for 32% of the variance in teacher-rated academic expectations and 26% of the variance in teacher-rated task orientation. Task-performance academic climate was associated with declines in both teacher's expectations and teacher rated task orientation from Year 1 to Year 2. Neither the main effects nor interaction effects reached significance for performance achievement motivation and teacher-rated academic outcomes.

Table 4. Performance-Approach/ Performance-Avoidance Achievement Motivation and Teacher Expectations

	TR Expectations Y2	TR Task Orientation Y2
TR expectations Y1	.48***	--
TR task orientation Y1	--	.43***
Grade	-.08	-.07
Gender	.02	-.02
Immigrated at <5 years	-.04	.02
Immigrated at 5-11years	-.10	-.02
Immigrated at 12+ years	-.16	-.09
ΔR^2 for Step 1	.26***	.21***
Performance approach	-.10	-.12
Performance avoid	-.04	.11
Task-Performance Climate	-.21**	-.17*
ΔR^2 for Step 2	.05*	.05*
Performance approach x Task-Performance Climate	.04	-.02
Performance avoid x Task-Performance Climate	-.08	-.05
ΔR^2 for Step 3	.01	.00
Total R^2	.32	.26

Note: Coefficients are standardized regression weights from the final model.
+p<.10 *p<.05 **p<.01 ***p<.001

Discussion

This study provides a multidimensional understanding of achievement motivation and the important factors that contribute to positive academic outcomes for Latino adolescents. Findings demonstrate the importance of person-environment fit, revealing the role academic climate plays in the association between achievement motivation and academic outcomes for Latino adolescents . Findings also clarify the role that contextual variables (i.e. time spent in the U.S., gender, grade level) play in eliciting different kinds of achievement motivation among Latino adolescents. Whereas the expected associations

between immigration age (time spent in the U.S.) and achievement motivation were not found, gender and grade level were more strongly related to achievement motivation than expected.

Person-Environment Fit

The present study examined the way in which an individual characteristic (achievement motivation) and contextual factors (perceived academic climate) contributed to either a positive or negative "fit" as implied by variations in academic performance. It was expected that more negative academic outcomes would be found for adolescents who focused highly on performance goals *and* perceived their academic climate as also highly focused on grades and performance. Findings indicate, however, that negative academic outcomes were associated most with adolescents who were not motivated to master skills or approach challenges *and* perceived an academic climate focused highly on grades.

The association between mastering tasks, approaching challenges and perception of academic climate shows that adolescents who reported that they were motivated to master tasks and approach challenges were perceived by teachers as highly task-oriented and likely to reach academic expectations regardless of their perception of academic climate. Students who were *not* motivated to master tasks and approach challenges *and* perceived an academic climate highly focused on grades, were reported to have poor task-orientation and bleaker academic futures by their teachers. In other words, the most negative person-environment fit was found when students were not motivated to master tasks or approach challenges *and* the climate placed a high emphasis on grades (or was perceived this way). This finding corresponds with Roeser and Eccles's 1998 findings

that students who *perceived* their academic climate to be more task-performance focused had lower grades than those who perceived their academic climate to be task-mastery focused. These findings also provide further support for the idea that an academic climate focused highly on performance (or at least the *perception* of such a climate) may contribute over time to negative academic outcomes.

In addition to mastery-approach achievement motivation, mastery-avoidance achievement motivation also proved to be significantly related to academic outcomes, although this association was not contingent on perception of academic climate. More specifically, when students reported that they were motivated to master tasks yet avoid challenges, their teachers were more likely to report lower academic expectations for them a year later, even if adolescents did not report a highly grades-focused academic climate. It is possible that adolescents who avoid challenges may be perceived by teachers as lacking the initiative needed to succeed academically, even if they demonstrate an interest in mastering tasks put before them.

These findings are important in that they demonstrate that the optimal person-environment fit for positive academic outcomes occurs when adolescents show high levels of mastery-approach achievement motivation *and* their academic climates are not highly focused on grades and performance. These findings imply that in order to increase academic success, adolescents should be encouraged to master tasks and approach challenges *and* teachers should avoid over-emphasizing grades and performance. Since findings show that academic climate was just as strong a predictor of academic outcomes as achievement motivation, it is just as important to focus on adolescents' *external* climate (or at least their perception of their climate) when developing strategies to

increase academic success as it is to foster their *internal* motivation to achieve. These strategies may also correspond with the cultural values of many Latino families, which place an emphasis on hard work and respect of elders. As a result, Latino students may benefit greatly when teachers, elders they respect, emphasize the importance of task-mastery and skill building over performance and grades.

Understanding Motivation and Climate

Achievement motivation was found to be significantly associated with both gender and grade level. Girls reported being more motivated to master tasks than boys yet this task mastery orientation was tempered by their fear of failure. Eighth graders reported increased motivation to master tasks and approach challenges over time, while seventh graders decreased in these motivational areas. Eighth graders also perceived their academic climate to be less focused on grades and performance from Year 1 to Year 2, whereas seventh graders perceived a greater emphasis on grades and performance in the classroom over time.

The finding that girls were more motivated to master tasks than boys, yet also were fearful of failure corresponds with the findings of Pekrun and colleagues (2006), who found that in a sample of 187 German college students, females who demonstrated high levels of mastery achievement motivation showed lower levels of enjoyment in learning than males who also rated high on mastery achievement motivation. This suggests that females may be motivated to master tasks and challenges they are faced with in school, but that they are more sensitive to failure and the possibility of negative outcomes.

The findings on achievement motivation and grade level suggest that adolescents actually become more motivated to master tasks and approach challenges as they make the transition from middle to high school. Findings also show that during this transition, adolescents perceive their academic climates to be *less* focused on grades and other performance outcomes. Past research has shown that high school typically places a stronger emphasis on grades than middle school (Seidman, et al., 1994). In the context of the present study, it is possible that students perceived a greater emphasis on grades just before the transition to high school due to an increased amount of standardized testing typically experienced at the eighth grade level (Georgia Department of Education, 2006). This may then lead to decreases in perception of a grades-focused climate once adolescents transition into high school.

Another possible explanation for why eighth graders' mastery-approach achievement motivation increases over time, while seventh graders does not, is that adolescents experience a greater feeling of freedom in high school (i.e. more class options, open campus, free periods, etc.) and that this in turn may lead to an increased interest in learning (mastery) and/or greater self-confidence/willingness to take risks in the face of challenges (approach). Such an interpretation is consistent with the work of Pressley and colleagues (2006), who found in a study of 203 students ranging in age from six to 14 years old, that a concentration on students' self-determination in a school setting contributed to school success. It is possible that a similar mechanism may be occurring for adolescents in this study as they transition from a more regulated setting in middle school to a more self-determined climate in high school, leading to increases in mastery-approach achievement motivation. Since increases in achievement motivation have not

typically occurred in past research focusing on non-Latino adolescents (Seidman, et al., 1994), it is also possible that this positive perception of the middle to high school transition may be unique to Latino adolescents.

Immigration age, or length of time spent in the U.S., was expected to be highly associated with levels of achievement motivation and perception of academic climate. However, neither achievement motivation nor perceptions of academic climate differed across levels of immigration age. Although the association between mastery-avoidance achievement motivation and immigration age did approach significance, this relation was not as strong as expected and no other forms of achievement motivation were related to immigration age significantly.

Unexpectedly, the number of years a Latino adolescent has spent in the U. S. did not appear to influence patterns of change in achievement motivation or perception of academic climate over time. These relatively consistent patterns of change may be a result of strong, persistent values held in the Latino culture over time (i.e. a strong work ethic, a high priority placed on education, avoidance of conflict for the good of the group, etc.) which Latino families may emphasize even after years of living in the U.S. Past research has found lower levels of achievement motivation among U.S. born Latino adolescents, although these studies have often used outcome measures as proxies for achievement motivation (Rumberger & Larson, 1998; Anderson & Evans, 1976; Eaton & Dembo, 1997; Evans & Anderson, 1973) or have included second generation U.S. born Latino adolescents (i.e. those adolescents whose parents were also born in the U.S.) in their samples (Suarez-Orozco & Suarez-Orozco, 1995). The current findings, however, indicate what may be considered a form of resilience for those adolescents who were

born or reared in the U.S. and maintain high levels of achievement motivation and low levels of perceived task-performance academic climate at the same rate as their more recently immigrated peers.

Strengths and Limitations

This study examined differences in achievement motivation and perception of academic climate among Latino adolescents from a *within groups* perspective. Rather than making cross-cultural comparisons, this within groups approach facilitated a rich understanding of the variation in achievement motivation, perception of academic climate and academic outcomes among Latino adolescents. Measuring academic outcomes with teacher ratings of task orientation and academic expectations also added strength to this study. Teacher ratings measured motivational outcomes more directly than other academic outcome measurements (i.e. grades, GPA, test scores, etc.) and were more objective than self-reported academic outcomes (i.e. school competence, etc.).

This study also used a multifaceted model of achievement motivation, examining both differences in goals (mastery vs. performance) and achievement orientations (approach vs. avoidance), to provide a detailed picture of the different ways in which Latino adolescents are motivated in school. Also, the longitudinal nature of the present study provided a picture not only of Latino adolescents' achievement motivation, perception of their academic climate and academic outcomes, but also the ways in which these factors develop over time. Insight into these patterns of development provides the opportunity to better understand how Latino adolescents are motivated to achieve, the contextual and demographic factors that inhibit or facilitate this motivation, and the ways in which this motivation may translate into positive academic outcomes over time. While

cross-sectional data provide valuable insight into the ways such factors relate to one another at one point in time, the longitudinal nature of this study enables us to better understand the dynamic mechanisms that come into play between adolescents, the context within which they learn, and subsequent academic outcomes.

One of the biggest challenges in this study was the missing data for teacher ratings at Year 2. Although measures were taken to statistically control for these missing data, it would have been preferable to have complete teacher ratings for both Years 1 and 2. Also, due to the fact that this study examined adolescents, it is difficult to tease apart normative developmental changes from changes due to the variables focused on in this study over time. Finally, the measure for perception of task-mastery academic climate was shown to be unreliable and was excluded from the study. Had this not been the case, this measure would have provided a more complete picture of Latino adolescents' perception of their academic climate.

Future Directions

Future studies may explore the complex association between normative patterns of development during the middle to high school transition and patterns of achievement motivation, perception of academic climate and academic outcomes. Academic achievement is a complex outcome consisting of many factors such as goals, ability, and expectations of others to name a few. Future research should focus on extracting the influences that life transitions have on this process and perhaps even conversely, explore the ways in which academic achievement may effect successful life transitions. Such studies should examine both Latino adolescents and other populations from a within groups perspective in order to develop more culturally specific understandings of

achievement motivation processes. Findings from such studies will hopeful prevent generalizations about achievement motivation across culturally distinctive groups.

Additional research should also explore teacher's views and attitudes towards Latino adolescents to a greater extent. In this study even though Latino adolescents were highly focused on mastering tasks, teachers still had low expectations for their academic futures when they avoided challenges put before them. The question then is, why do teachers view these avoidance tactics to be so adversarial in the academic expectations of Latino adolescents? It is possible that teachers who come from a more independent, American cultural background may be misinterpreting cultural behaviors designed to "keep the peace" within more collectivist cultures as weakness or apathy rather than useful conflict-quelling strategies. Future studies may ask teachers about the way in which they interpret different forms of avoidance tactics and try to determine whether or not they recognize that some forms of avoidance are culturally rooted interpersonal tactics.

Future studies may also look at different measures for achievement motivation, perceived academic climate and academic outcomes. For example, this study measured achievement motivation as a multi-dimensional concept that was developed for and with members of the White-American population. Additional research should focus on exploring different forms of achievement motivation prevalent in the Latino culture. For example, Suarez-Orozco and Suarez-Orozco (1995) found that Mexican adolescents and Mexican immigrant adolescents demonstrated high levels of *affiliative achievement motivation*, which places an emphasis on interdependence, success of the group and familism. White American and Mexican-American adolescents, however, demonstrated a

higher focus on independence and personal gain, both characteristics associated with a more traditional, individually oriented sort of achievement motivation. These findings suggest that different, more culturally relevant forms of achievement motivation may be prevalent among Latino adolescents. Future studies may examine how affiliative achievement motivation is linked to academic, psychological, and behavioral outcomes in order to better understand the unique ways in which Latino adolescents experience achievement motivation and how this changes over time. Such research may contribute to a greater awareness of the ways in which school's can structure the classroom to best motivate Latino adolescents to achieve, and thus provide Latino students with the support they need to achieve academic success.

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