

HISPANIC STUDENTS' CONNECTION TO SCHOOL: THE RELATION BETWEEN  
EXTRACURRICULAR PARTICIPATION AND GRADE POINT AVERAGE

by

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A DISSERTATION

Presented to the Department of Educational Methodology,  
Policy, and Leadership  
and the Graduate School of the University of Oregon  
in partial fulfillment of the requirements  
for the degree of  
Doctor of Education

June 2011

DISSERTATION APPROVAL PAGE

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Title: Hispanic Students' Connection to School: The Relation Between Extracurricular Participation and Grade Point Average

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## DISSERTATION ABSTRACT

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Doctor of Education

Department of Educational Methodology, Policy, and Leadership

June 2011

Title: Hispanic Students' Connection to School: The Relation Between Extracurricular Participation and Grade Point Average

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This study examines the relation between Hispanic students' extracurricular participation and GPA. Research suggests that participation in extracurricular activities is positively related to academic achievement in high school. This study addresses the Social Capital connection to school as a contributing factor in academic achievement. This study's findings provide evidence to support the hypothesis that extracurricular activities have a positive relation to freshman year GPA scores, specifically for Hispanic students. The study's findings also suggest there is a difference in terms of GPA for Hispanic students across trimesters. This study adds to the growing body of literature on the positive relation between extracurricular activities and cumulative GPA for Hispanic students.

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## CHAPTER I

### INTRODUCTION

American public schools are encountering a growing minority population and thus a growing responsibility to ensure their academic success. According to current projections, high schools are set to experience a tremendous increase in their population of minority students. Between 2010 and 2020, the population of White students aged 14-17 is expected to decline 3.3%, while the African American, Asian, and Hispanic populations are expected to increase 0.6%, 22.5%, and 20.9%, respectively. The latter figure represents an increase of nearly one million Hispanic students (U.S. Department of Commerce, Bureau of the Census, 2005). The U.S. Department of Education defines Hispanic as a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture origin, regardless of race. Increased populations of minority students are requiring educators to ensure that these students' educational needs are being met.

While the problems of low grade point averages (GPAs) and dropouts are affecting high school students of all ages and ethnicities, the minority communities are especially hard hit. Since 1972, high school dropout rates for Whites have decreased from 12.3% to 8.9%. The dropout rates for African Americans also declined from 21.3% to 13.6% (Rendon, 2004). While these are promising data, it is important to note the increase in dropout rates for Hispanics, which are about 2 to 3.5 times the rate for White non-Hispanic students (National Center for Education Statistics [NCES], 2005). The

substantial increase in Hispanic student dropout rates has brought this rapidly growing ethnic group to the forefront of public concern.

Those who work with students often suggest that extracurricular activities connect students to their school experiences and promote higher GPAs. Research on extracurricular activity participation has generally supported this view. Students who participate in school-sponsored activities have been found to have higher GPAs (McCarthy, 2001). Cooper, Valentine, Nye, and Lindsay (1999) found that participation in extracurricular activities is associated with higher test scores and class grades.

Although many factors may contribute to a student's increased GPA, a "connection to school" fostered through extracurricular activities may be argued as a primary theoretical framework. The relation between extracurricular participation and GPA may be explained by this "connection to school." The framework for this connection to school is laid out by Broh's (2002) Social Capital model. Broh's Social Capital model provides a possible theoretical link between students from culturally diverse backgrounds who are participating in extracurricular activities and GPA. The association of extracurricular activity participation with GPA cannot be fully understood without an inclusion of school connection (see Figure 1).

Research suggests that extracurricular activities are instrumental in students' connection to school. This connection to school can be created and maintained through extracurricular participation; however, previous studies have largely overlooked the relation between extracurricular participation and the growing Hispanic population.

According to Davalos, Chavez, and Guardiola (1999), schools should increasingly concern themselves with enhancing the connection to school that Hispanic students feel.

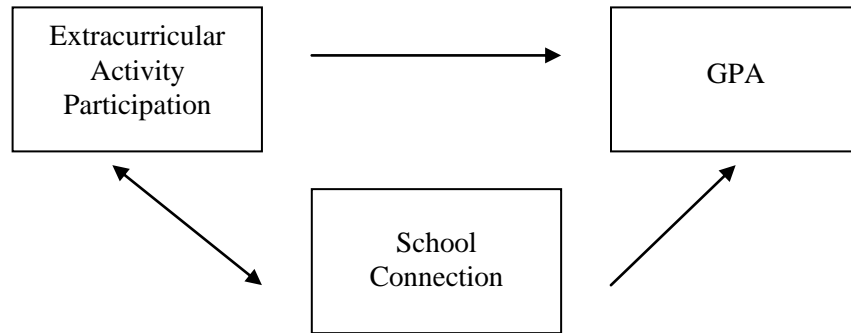


FIGURE 1. GPA as dependent on school connection, which is supported in part by participation in extracurricular activity.

Therefore, this study examines the hypothesized relation between Hispanic students' extracurricular participation and GPA. By examining Hispanic students' extracurricular participation, I hypothesize those students' GPA scores will be positively related to their participation in extracurricular activities.

#### *Purpose Statement*

The purpose of this study was to investigate the relation between participation in extracurricular activities and the average freshman year GPA of Hispanic students. The freshman year GPA may be different depending on the type of extracurricular activity in which the students participate, and Hispanic students' participation in athletic extracurricular activities may be positively related across trimesters. In this study, conducted in one school district in the Pacific Northwest, I examined the relationship

between ninth-grade Hispanic students and their average GPA. In particular, I focused on four levels of extracurricular participation (athletics, clubs, athletics in combination with clubs, and nonparticipation) and whether the effect was constant for both Hispanic and non-Hispanic White students. Also, I focused on one specific club activity (multicultural soccer) to test if participation in an activity with no minimum GPA requirement is positively related to GPA.

This research will help to provide a better understanding of Hispanic students' extracurricular participation trends, and relations of those to GPA. As high school administrators look for creative ways to link a growing minority population to academics, extracurricular activities may provide that connection.

## CHAPTER II

### LITERATURE REVIEW

In this literature review, I first address the research highlighting extracurricular activities' relation to academic achievement. I then propose a theoretical model that might be useful in understanding the phenomenon of increased GPA through participation as "connection to school" and use this depiction to frame my study. In order to present a balanced review, I then review literature that shows a negative relation to GPA. I then introduce the role of cultural background and the literature on the changing demographics of our schools and consider minority, specifically Hispanic, extracurricular participation. Finally, I consider the literature, and lack thereof, on the relations of participation in extracurricular activities to increased Hispanic academic achievement.

#### *Extracurricular Participation*

Participation in extracurricular activities has been shown to have a relation to academic achievement. Participation in athletic activities is increasing, while participation in academic clubs is decreasing (U.S. Department of Education, 2006). However, sporting activities have typically been given the most attention by researchers, likely because of the increased rate of sports participation by students.

Participation in athletic extracurricular activities, when seen as participation in sports, has typically been divided into three categories: involvement in competitive sports as a leader, involvement in sports as a participant, and no involvement (Camp, 2001;

Guest & Schneider, 2003; Sabo, Melnick, & Vanfossen, 1993). Within most of the existing research, classification of extracurricular activities has generally been a dichotomous split between athletic versus nonathletic activities.

One exception to this limitation, however, is the Eitle and Eitle (2002) study that drew random samples of eighth graders from approximately 1,000 randomly selected middle schools ( $n = 4,951$ ); they considered three categories of sports participation. In their analysis, varsity and junior varsity participation was examined in basketball, football, and other sports. To further analyze population differences within specific activities, Eitle and Eitle explored basketball and football, specifically because of their perception that Black males have access to these sports and are more likely to gravitate towards sports with greater opportunity for upward mobility. Eitle and Eitle (2002) were able to find significant relations between sports and academics by looking at specific athletic activities.

Guest and Schneider's (2003) study utilized data from students in Grades 6, 8, 10, and 12 from 12 sites across the United States. Students differed by degree of residential urbanization, ethnic composition, and economic status ( $n = 6,453$ ). Their sports-level variable was comprised of three levels of participation: not involved, involved in at least one sport, or highly involved in at least one sport (as a captain). They found no correlation between participation in athletic activities and earned GPA.

In contrast to athletic competitive activities, nonsport activities (arts and academic extracurricular activities) have been largely overlooked in the literature. These types of



activities may have been overlooked because of the decrease in student participation displayed in Table 1.

**TABLE 1. High School Sophomore Extracurricular Clubs Participation Percentages**

	1990	2002	% change
<b>Academic Clubs</b>			
Blacks	26.2	7.3	-18.9
Non-Hispanic Whites	31.0	8.9	-22.1
Hispanics	27.2	6.1	-21.1
Asians/Pacific Islanders	36.7	14.3	-22.4

*Note.* From *Percentage of High School Sophomores Who Participate in Various School-Sponsored Extracurricular Activities, by Selected Student Characteristics: 1990 and 2002*, by U.S. Department of Education, 2006.

Participation in arts and academic extracurricular activities has been found to be associated with achieving higher grades (Guest & Schneider, 2003). Yet, with this decrease in academic club participation and with most research being devoted to sports, Marsh's (1992) study was one of the first to create numerous categories for the participation variable. Researchers had typically not given attention to classification of extracurricular activities other than sports. Marsh's study was based on responses from a sophomore cohort of the High School and Beyond (HSB) study conducted by the National Center for Educational Statistics. This study was conducted with a very large nationally representative sample and coded extracurricular activities with 16 categories. Marsh believed that the potentially important effects of specific activities would be masked by collapsing responses from different activities to form a single, total

participation index. By dividing the participation variable into categories, Marsh found the benefits of participation differed substantially depending on the particular activity.

In 1976, Hanks and Eckland collapsed eight activities into two categories: sport and social participation. The eight items in their survey instrument included varsity sports, publications or professional writings, drama or music, debate, student government, social service or religious groups, science groups, and other academic groups.

Unfortunately, these activities appeared on a survey that included ambiguous response categories such as “a lot,” “some,” “none,” and “not available.” Other studies have simply divided the broad category of art and academic extracurricular activities into two levels of participation, participant or nonparticipant (McCarthy, 2001). Even with this type of general categorization, McCarthy still found that students who participated in school activities had higher grade point averages when compared to those who did not. Cooper et al. (1999) similarly found an association with higher achievement when coding extracurricular activities as “involving peers” and those outside the activities as “non-participants.”

The type of activity has been largely overlooked by many existing studies. Researchers have instead chosen general, categorical measures like Hanks and Eckland’s (1976) athletic/social participants, Marsh’s (1992) participant/nonparticipant, and Brown and Evans’ (2002) sport/fine arts as variables of interest. Eitle and Eitle’s (2002) study looked more specifically at type of activity, but focused exclusively on basketball and football.

As these studies indicate, a number of dimensions to participation may be embedded in the research, whether it considers Marsh's (1992) categorization scheme, Hanks and Eckland's (1976) activity analysis, or the analysis of participants conducted by Cooper et al. (1999). Extracurricular participation cannot be adequately understood if the multidimensionality of the variable is ignored.

The direct relation between extracurricular activities and grade performance was shown as far back as Hanks and Eckland's (1976) study. Typically, early literature reported mixed results on the association between participation and GPA, but more current literature generally supports a positive relation between extracurricular activity participation and academic achievement (Broh, 2002; Gerber, 1996; Sabo et al., 1993).

Participation in more than one extracurricular activity may have varying benefits for each activity. Competitive athletic activities, along with arts and academic activities, including choir, language clubs, and band, are likely to have a relation with student learning but may be seen as having this relation unique to the activity. According to Broh (2002), the type of activity and the duration of participation may impact how GPA is affected. Broh used a stratified, clustered national probability sample when students were in their 10th- and 12th-grade years ( $n = 12,578$ ). Academic performance was measured with both grades and standardized test scores and the sample was limited to only those 10th- and 12th-grade students who participated.

A combination of activities has a different relation to achievement than a single activity. Cooper et al. (1999) found that multiple after-school activities, rather than single activities in isolation, proved beneficial for students. Surveying students and parents from

a three school districts—one metropolitan, one suburban, and one rural—they found that time spent on school sports, clubs, and groups outside of school was associated with higher student achievement. Cooper et al. (1999) reported that participation in extracurricular activities was associated with higher teacher-assigned grades even after variables like gender, grade level, and ethnicity were statistically controlled. In this study, extracurricular activities were only coded as a dichotomous variable.

McCarthy (2001) examined whether students who participated in school-sponsored activities earned different GPAs than nonparticipants. The independent variables of gender and ethnicity also were examined. Using student data from the largest school district in Colorado, McCarthy found significantly higher GPAs and significantly lower absenteeism among students who participated in school-sponsored activities. Again, participation in extracurricular activities was found to have a positive relation with academic performance and achievement in high school.

### *Connection to School: Theoretical Models*

I have framed the study around “connection to school” as a construct explaining the influence of extracurricular participation on grade point average, particularly with respect to a differential association for students of color. This construct is elusive to define and perhaps even more difficult to study. Researchers have hypothesized that extracurricular activities might boost minority students’ social capital and connection to school (Brown & Evans, 2002); this increase, in turn, may improve their GPA or academic performance. Brown and Evan’s (2002) study focused on the relation between

youth participation in extracurricular activities and a greater sense of school connection. It was found that, regardless of ethnicity, students who participated had greater levels of school connection.

When students participate in an activity they may become increasingly committed to it. This may foster their connection to the school and their school success. According to Broh, (2002) minority students' connection to their school experience may help explain the relation between participation and GPA. He provides three theoretical models—(a) the Developmental model, (b) the Leading Crowd hypothesis, and (c) the Social Capital model—that explain the relation between participation and educational achievement.

#### Developmental Model

Participation in extracurricular activities socializes students in a way that can promote educational success. Participation, especially in sports, teaches work ethic, respect for authority, and perseverance. Work ethic in sports translates into a stronger work ethic for school work (Coleman, 1961). Respect for authority can be seen from coach to participant and also from student to teacher. Perseverance necessary to work hard at an extracurricular activity and be successful is necessary in the classroom as well. The perseverance to stick to a goal or assignment and finish strongly is part of this Developmental model. These are generally the same set of skills that would be required of any student with values that favor achievement.

The three measures that Broh (2002) used in the Developmental model were self-esteem, locus of control, and time spent on homework. Successful experiences that utilize

this set of skills develop confidence and maturity, which then may carry over into students' grades. In this way, the necessary character traits that point towards goals of the activity are similar to those that point towards academic goals.

According to Broh (2002), the measures of the Developmental model only modestly, but directly, aided students' academic achievement. The benefits of athletic competitive participation on students' self-esteem, locus of control, and time on homework explained, on average, one third of the effect of sports on grades and test scores. Broh's study offers empirical evidence that participation directly aids students' academic achievement.

### The Leading Crowd Hypothesis

The Leading Crowd hypothesis suggests that extracurricular participation provides more opportunities for peer interactions, which leads to membership in the "popular crowd." This crowd is typically composed of high-achieving, college-bound students. Thus, this hypothesis states that by participating in extracurricular activities, the students increase their social status through interaction with a peer group that is already in tune with academics. Similarly, sports participation is beneficial to the academics of peers and connects those students to adults, specifically parents and teachers.

By increasing social status, extracurricular participation would then provide access to a peer group that is more academically focused. This academically focused peer group facilitates a higher academic performance. As far back as Coleman's (1961) study, the indication is that male athletes hold the highest status in high school and are more

likely to be associated, as a result, with a college-oriented peer group than nonparticipants. The Leading Crowd hypothesis then states that because of the connection between participation and the college-oriented peer groups inherent in those activities, the high school athletes with this status would have higher GPAs relative to nonparticipants.

The Leading Crowd hypothesis also posits that participation in activities connects students not only to academically oriented peers, but also to adults, specifically teachers and parents. In this regard, the academic benefits for participants accrue through these social networks. Even with the heightened involvement within these social networks, Broh (2002) reported that only a small part of the positive effect of sports participation on grades was attributable to this Leading Crowd hypothesis. It is clear that extracurricular activities offer students membership in a peer group, but Broh found that peer group orientation mediated less than 10% of the effect of sports participation. Evidently, peer group orientation provided some academic benefit, but the link between the two seemed weak.

### Social Capital Model

This model suggests that students gain academic benefits through membership in a social network—e.g., the family. Extracurricular participation may serve to create social capital within the family by providing more interaction between the parents and student. Yet social capital can also exist between students, parents of students, and most important, the school. Extracurricular activities may be just the opportunity students need

to intensify the social ties between themselves and the school. Thus, the Social Capital model provides a theoretical link, or connection, to school.

Knowing that family plays a vital role in the success of a child's education, the family is the primary site of social capital. Children whose parents are active in the school, well educated, and active in their sons' or daughters' lives have greater success in school (Coleman, 1990). Extracurricular participation may facilitate this social capital within the family. By participating in activities, the student and parent create more opportunities for social interaction. A parent may attend an event in which the student is participating, for example. A student's involvement in an activity creates a unique opportunity for increased communication with the parent, thus strengthening the bond between student and parent, which has proven to create greater scholastic success.

Social capital can exist and could be strengthened between student and parent, but also can exist between student and teacher, coach, and the entire school. Thus, it is possible that participation in activities could create opportunities for the social strengthening of ties outside the family. Social capital then promotes not only a social strengthening that affects educational success, but also may act as a "social control mechanism" that promotes trust and compliance among group members. The discipline from activities acts as a source of control that encourages students to fit into school norms, the "belonging" aspect of the connection to school.

Broh (2002) specifically studied the social capital between students and the school, and found that the social capital attributed to extracurricular activities and helped students improve their grades. According to Broh, social capital explained almost half of



the effect of participation. The Social Capital model appears effective in explaining a connection to school, thus explaining the academic benefits of participation in sports. The relations formed by these students produced social capital through developmental characteristics that connected the students to school.

### Summary of Models

The Developmental model, Leading Crowd hypothesis, and Social Capital model are the theoretical frameworks that provide the link between participation and educational achievement. When students are connected to an activity they exhibit a commitment to their school, which results in success at school. Work ethic, social status, and intensified social ties are means by which minority students may create a sense of belonging. That belonging generates a connection to school that is cultivated through a commitment to extracurricular activity participation.

Within the Social Capital theoretical model is a framework to behave in a way that strengthens bonds between students, parents, and teachers, and helps students succeed. Extracurricular participation in high school may provide this social capital connection to a school. The Social Capital model is the theoretical paradigm that may help educators understand why extracurricular participation in athletic, art and academic activities might boost achievement. The social bonds help motivate students to do better for those with whom they have personal relations. Being so motivated may result in greater academic achievement. Lastly, a possible side effect is the fostering of better relations with the school in general. This connection to school is the central link between

students' athletic and/or arts and academic extracurricular activity choices and their increased achievement.

A changing population of minority students necessitates a new idea regarding how to build stronger connections to schools. This connection to school may act as the theoretical link between extracurricular activities and GPA; these activities also may be equally effective for male and female students from underrepresented minority groups. This model may offer new evidence to support the idea that a relation may be strengthened or weakened by the race of the participant. Extracurricular activities, whether competitive or in arts and academics, or both in concert, may encourage a connection to school and as a consequence may have a relation to student achievement. Furthermore, ethnicity may moderate the relation between extracurricular participation and student achievement (McCarthy, 2001).

#### *Extracurricular Participation as a Distraction*

Extracurricular participation may divert educational resources that students rely on to promote achievement. Schools are seen by many as a place of study and academics and the use of the facilities and time of the students for pursuits outside of academics are seen as wasteful and distracting. For some educators, extracurricular participation is viewed as a distraction from academic pursuits instead of a tool for increased achievement. Depending on the theoretical perspective, student participation in extracurricular activities may (a) divert attention from academics, (b) have little

association with academics, or (c) have a positive relation. Questions regarding the efficacy and legitimacy of extracurricular activities in the school are not new.

Broh's (2002) study, which focused on school-based activities, found that intramural sports and vocational clubs did not afford students any academic benefit. Specifically, students in intramural sports experienced a decline in math and English scores, while Mendez (1984) proposed that extracurricular activities should be sharply curtailed or even eliminated entirely from the secondary schools.

Eitle and Eitle (2002) found that, in an educational system that increasingly relies on the scores of various standardized tests, participation in basketball and football had a negative relation with standardized achievement scores for its participants. A study by Guest and Schneider (2003) reported that achieving higher grades was not consistently predicted across schools by individuals' participation in sports. A similar study by Lamborn, Brown, Mounts, and Steinberg (1992) suggests that competing demands from nonsport (arts and academic) activities depressed academic performance when the demands were time-consuming and did not, in and of themselves, relate to academic responsibilities.

Studies on extracurricular activities' relation to achievement are complex, with participation often seen as a distraction with little relevance to the primary functions of educational institutions (Eitle & Eitle, 2002; Hanks & Eckland, 1976). These critics charge that time lost from study (presumably from extracurricular activities both in and out of school) may produce a negative association with academic achievement, as

reflected in grades. These studies, however, did not take into consideration a more ethnically diverse population.

### *A Changing Population*

Recent studies investigating the association between extracurricular activities and student achievement have found extracurricular participation to be a positive force, and not a drain on achievement; however, these studies were limited because of their failure to consider the relation between sports and achievement for groups other than Whites. As Lamborn et al. (1992) notes, this practice of lumping all students together must be replaced with a more differentiated categorical scheme.

Concurrent with this debate, and indeed quite separate from the issues of participation in extracurricular activities, is the changing landscape of schools in the populations they serve. A minority population is increasingly present, with children of color becoming a more prominent group; in some schools, they have become the majority. Because of the increase of students of color, more are participating in extracurricular activities.

At the national, state, and local levels, schools' demographics are changing. Minority student numbers have increased in the United States and accounted for more than 30% of the school-age population by the end of the twentieth century (R. C. Morris, 2000). Between 1999 and 2000, Hispanics surpassed Blacks as the country's largest minority group, while Asians/Pacific Islanders have experienced the largest rate of growth in the past two decades (KewalRamani, Gilbertson, Fox, & Provasnik, 2007).

Table 2 shows this projected increase in the number of high-school-aged students from 2000 to 2010.

TABLE 2. U.S. Population Projections of Persons Aged 14-17:  
Percent Change From 2000-2010

Ethnicity	Population (in millions)		% change
	2000	2010	
Blacks	2.4	2.6	6.8
Non-Hispanic Whites	10.3	9.6	-6.9
Hispanics	2.4	3.3	34.5
Asians/Pacific Islanders	0.6	0.7	17.6
Others	0.6	0.7	23.1

Adapted from *Population Projections of Young Persons, Indicator 2*, by U.S. Department of Commerce, Bureau of the Census, 2005.

Increased populations of minority students require that educators meet these students' educational needs. Since 1972, high school dropout rates for Whites and African Americans have declined (Rendon, 2004). While these are promising data, it is important to remember the increase in dropout rates for Hispanics is alarming and there still exists a great discrepancy in percentages between the White and African American data. The U.S. Department of Education (1995) reported that the percentage of those dropping out is decreasing, yet, what is distressing is the 4.7% disparity between Whites and Blacks. Another 1.3 million dropouts were Hispanics. This amounts to nearly one third of all Hispanics in the 16- through 24-year-old age group. Planty et al. (2009) reported that 37.7% of Hispanic students aged 16-24 were dropouts. With an increase in

the percentage of Hispanics dropping out, the issue of helping ethnic minority students improve their connection to schools persists.

This new and expanding minority population is increasingly involved in extracurricular activities. Increasing the participation of minority students in school-related activities may prove to be related to increased academic achievement for these individuals. In the next section, I consider the increase of the minority Hispanic population's participation in extracurricular activities and its potential relation to GPA.

### *Participation and Increased Hispanic Achievement*

As the population of minority students who participate in extracurricular activities increases, their earned grade point averages (GPAs) are receiving more attention. While the problems of low GPAs and dropouts are affecting students of all ethnicities, the minority communities are of growing concern. According to Orfield, Losen, Wald, and Swanson (2004), in schools where students of color comprised 90% or more of enrollment, only 42% of the freshmen advanced to Grade 12. Ethnicity is an important variable that should be taken into account, because extracurricular activities as an academic intervention may differ for minority groups.

White students may have an easier time fitting in and succeeding academically than non-White students. According to Diaz (2005), Hispanic youth are more likely to feel lower levels of school attachment; however, Diaz also observed higher GPAs when students were more attached to their school. He found that extracurricular participation

was found to be a reliable predictor of attachment, and attachment to school was related to higher GPAs.

McCarthy (2001) found those Hispanic students who participated in extracurricular activities had significantly higher GPAs than those Hispanic students who did not. In his study of nearly 20,000 students, mean GPA scores for Whites were .65 higher than those of nonparticipants, while Hispanic GPA mean differences were .67 higher for participants versus nonparticipants ( $p < .001$ ). Though the Hispanic participants' GPA scores were not as high as the White students', it is still worth noting that the mean differences between participants and nonparticipants were larger for Hispanics than for Whites.

For Native American, Asian, Black, Hispanic, and White ethnicities, the students who participated in school-sponsored activities scored a higher GPA compared to students of the same ethnicity who did not participate in activities (McCarthy, 2001). Table 3 shows the increase in sports participation nationwide for sophomore students.

TABLE 3. High School Sophomore Extracurricular Athletic Participation

	1990	2002	% change
Athletic Clubs			
Blacks	51.4	55.0	3.6
Non-Hispanic Whites	53.5	57.0	3.5
Hispanics	43.9	48.3	4.4
Asians/Pacific Islanders	54.9	47.7	-7.2

*Note.* From *Percentage of High School Sophomores Who Participate in Various School-Sponsored Extracurricular Activities, by Selected Student Characteristics: 1990 and 2002*, by U.S. Department of Education, 2006.

Particularly because the national percentage of minority students participating in sports activities is on the rise, this research may be important given that several studies have utilized a national data set (Broh, 2002; Sabo et al., 1993) and uncovered important ethnic differences in the links between extracurricular participation and educational outcomes. According to Gerber (1996), achievement on math, reading, and science tests among African Americans and Whites was associated with school-based extracurricular participation for both groups.

Given the research on extracurricular activities and achievement, it appears that most studies focus on the type of activity but not the type of student. Eitle and Eitle (2002), Gerber (1996), Guest and Schneider (2003), and Marsh (1992) did not include any results specific to Hispanics in their studies. The question then becomes: Do extracurricular activities have differential academic outcomes for Hispanic participants? Many of the studies on the educational consequences of participation have failed to report the relation between competitive athletic activities and academics for minority groups, particularly Hispanic students.

The research on extracurricular activities has not focused on the outcomes in relation to specific student populations. Generally, the research has not included Hispanic populations, or if they have been part of the research populations, the outcomes have not disaggregated the results for students of color. The problem then is whether the relations to extracurricular activities have differential outcomes (e.g., for students of color) or whether they are uniform (e.g., have the same relation for all students, irrespective of ethnicity). This more refined question is important because the very strategies being used



to enhance students' "connection to school" may in fact make the situation worse. Hispanic students already have more unsuccessful trajectories; i.e., they have lower grade point averages, graduate in fewer numbers, and enter college at lower rates upon graduation.

Although pivotal in this proposed research, historically, less concern has been devoted to the types of students who are participating. In a study on the relation between athletic extracurricular activities and academic achievement, Gerber (1996) omitted Hispanics entirely from her investigation. Within many existing studies, student populations are described with little emphasis on the Hispanic ethnicity.

The purpose of this study was to investigate the relation between participation in extracurricular activities and the average freshman year GPA of Hispanic students. The freshman year GPA may be different depending on the type of extracurricular activity in which the students participate, and Hispanic students' participation in athletic extracurricular activities may be positively related with GPA across trimesters. This research will help to provide a better understanding of Hispanic students' extracurricular participation trends, and relations of those to GPA.

### *Research Questions*

This study has four primary research questions that led to the purpose and objectives for the investigations. Specific research questions examining the relations between Hispanic students' participation in extracurricular activities and GPA include the following:

1. Do ninth-grade students who have participated in extracurricular activities have a significantly higher average freshman year GPA than nonparticipants?

2. Do Hispanic and non-Hispanic White students who participate in athletics, clubs, or athletics in combination with clubs achieve a 2.0 or greater GPA at different rates than nonparticipants?

3. Is the effect of extracurricular activity on GPA constant for both Hispanic and non-Hispanic White students?

4. Is Hispanic participation in an athletic activity that does not have a minimum 2.0 GPA for participation positively related to GPA across trimesters?

One goal of this study is to help Hispanic students improve their academic achievement, enjoy their high school experience, and graduate. It is clear that administrators and those in charge of budgets would benefit from a better understanding of the relation between extracurricular participation and GPA.

## CHAPTER III

### METHODS

The current study uses quantitative procedures with a district data set. The procedures are addressed in this study's purpose, which is to better understand the relation between Hispanic extracurricular participation and GPA.

Better understanding of the relation between extracurricular participation and GPA can lead to improved student support and academic performance. It is important to state that multiple factors may be related to students' academic performance. This study does not show a causal relationship. Nevertheless, while not establishing causality, the investigation may add to our understanding of how Hispanic students' participation in extracurricular activities may connect them to the school experience and affect their academic achievement.

#### *Participants*

The first three research questions required data obtained from high school Hispanic and White non-Hispanic freshman students who participated in extracurricular activities. From a single school district, the student sample included three years of freshman student cohorts (2006, 2007, and 2008) enrolled in five high schools, in one school district in Oregon. The total sample included 6,927 students: 1,410 were Hispanic (21%) and 5,517 were non-Hispanic White (79%). Ninety-six Hispanic outliers and 138

non-Hispanic White outliers were removed because of a 0.0 cumulative GPA and more than 10 absences. All five high schools' data were merged into one data set.

The Hispanic group ( $n = 1,410$ ) included no students who identify as African American, Asian, Caucasian, or Native American, and the non-Hispanic White group ( $n = 5,517$ ) included no students who identify as African-American, Asian, Hispanic, or Native American. Also, students who gave no ethnic status were eliminated from this study.

The fourth research question discussed below used a subsample of 52 male and female Hispanic students who participated in the school's multicultural soccer teams. The sample did not include students who identified themselves as African American, Asian, Caucasian, or Native American. Players on the multicultural soccer teams are not restricted by the district-mandated 2.0 GPA for participation in competitive athletic events; therefore, even those students earning less than a 2.0 GPA are among the population of this sample who may compete in all of the club's competitive events.

All archival data came from a single school district's Student Information System (eSIS). An extant database generated and maintained by the school district, eSIS provides a centralized site for the collection and storage of student records, grades, disciplinary processes, transfers, and student demographics. This system tracks and manages students' data from kindergarten to 12th grade.

## *Measures*

This study has two sources of data, which were collected in two parts. First, the study examines the relation between extracurricular activity and freshman year GPA scores for Hispanic and non-Hispanic White students. For the first three hypotheses, the independent variables are (a) extracurricular activity (athletics, clubs, athletics in combination with clubs, and nonparticipation); and (b) ethnicity (Hispanic and non-Hispanic White). The dependent variable for the first three analyses is GPA, computed as the mean across the three trimesters of the high school freshman year. The fourth and last hypothesis uses time (Trimesters 1, 2, and 3) as the independent variable and GPA during each of three trimesters during the year of participation as the dependent variable. Trimester data were available only for Question 4.

### Extracurricular Activity

The variable of extracurricular activity was examined in each of the analyses. In the first three sections, ninth-grade extracurricular activity was divided by the District's eSIS codes for participation. These extracurricular activities fall within three categories: athletics, clubs, and nonparticipation.

For the first analysis, extracurricular activity was dichotomized as follows: (a) participants (those who participated in athletics and/or clubs), and (b) nonparticipants. Participation (yes/no) was used as the independent variable. For the second and third analyses, an independent variable was created for those students who over the course of their freshman year participated in athletics in combination with clubs. The independent,

categorical variable of extracurricular activity in the second and third analyses then included (a) athletics, (b) clubs, (c) athletics in combination with clubs, and (d) nonparticipation.

The fourth research question focused on students participating in multicultural soccer. Multicultural soccer is designated as a club activity. While participating in an athletic club extracurricular activity, students on the multicultural soccer team are permitted to play in games irrespective of maintaining a 2.0 GPA. The independent variable for this analysis is multicultural soccer participation, which begins in the second trimester.

#### Student Ethnicity

This Oregon school district categorizes a student's ethnicity into six different categories: African American, Asian, Bi-Racial, Hispanic, Native American, and White. Bi-Racial refers to students who identify with multiple ethnic groups. For some students, ethnic information was missing either because the student declined to answer the question, the student's reporting was uninterpretable, or the student's data entry was invalid. The current study tests only the Hispanic and non-Hispanic White student samples.

#### Grade Point Average (GPA)

GPA was used as a measure of academic achievement. Freshman year GPAs for each of three trimesters were collected from teacher-assigned grades. This continuous

dependent variable is based on a 4.0 scale with A's worth 4 points, B's worth 3 points, C's worth 2 points, D's worth 1 point, and F's worth 0 points. Other class marks were not included. Overall, GPA was computed as the mean across three trimesters.

A cutscore of 2.0 was tested in some analyses because it is required for athletic teams' competitive, interschool play. The 2.0 cutscore is not a requirement for participation in extracurricular activities; instead, it acts as a motivational tool to encourage students to earn above that score in order to play in athletic, not club, competitive matches. However, an exception is the multicultural soccer team; there is no 2.0 minimum GPA requirement for participation in the multicultural soccer athletic club team's games. It is also important to note that trimester GPA data were available only for the multicultural soccer players for the fourth research question.

Upon observation of students' GPA scores, it was found that a small number of the mean GPA scores were unreliable. Inspection of these scores identified 96 Hispanic and 138 non-Hispanic White students who had a 0.0 cumulative GPA and more than 10 absences. Because these students had 10 or more absences, exceeding the district's number of allowable absences, those student data were removed as outliers. None of these students would have been permitted to participate in extracurricular activities because of their large number of absences from the school.

### *Data Analysis*

Analyses for this study corresponded to the four research questions and hypotheses. Prior to analyses, descriptive statistics for all variables were computed and

used to identify outliers and test for distributional assumptions associated with specific analyses.

### Research Question 1

The first research question pertained to the relation between extracurricular activity and GPA. My first main objective was to understand if students who have participated in extracurricular activities have a significantly higher freshman year GPA than nonparticipants. The relationship between participation on GPA was tested separately for Hispanic and non-Hispanic White students. For the two ethnic groups separately, an independent samples *t* test was completed to test the significance of GPA differences for extracurricular participants and nonparticipants. As described above, extracurricular participation required participation in at least one of the designated extracurricular activities (athletics, clubs) for at least one trimester of the student's freshman year.

### Research Question 2

The second research question focused on the relation between participation in extracurricular activities (athletics, clubs, athletics in combination with clubs, and nonparticipation) and dichotomized GPA based on a 2.0 cutscore for ninth-grade Hispanic and non-Hispanic White students. The 2.0 cutscore is important as it acts as a requirement, not for participation, but for completion in interschool play.



First, a chi-square test of independence was conducted to test if Hispanic and non-Hispanic White students participate in extracurricular activities at different rates. Second, because of the 2.0 minimum GPA required for athletic competition (not participation), a second contingency table analysis was conducted to understand if Hispanic and non-Hispanic White students achieve a GPA of 2.0 or greater at different rates.

Third, a chi-square test of independence tested whether Hispanic students who participate in extracurricular activities (athletics, clubs, athletics in combination with clubs, and nonparticipation) achieve a 2.0 or greater GPA at different rates. Fourth, a chi-square test of independence tested whether non-Hispanic White students who participate in extracurricular activities (athletics, clubs, athletics in combination with clubs, and nonparticipation) achieve a 2.0 or greater GPA at different rates.

### Research Question 3

The third research question focused on the interaction and simple main effects of Hispanic and non-Hispanic White extracurricular activity on freshman GPA. The aim was to test if the relationship between extracurricular activity and GPA was constant for all students, or different for Hispanic/minority students, compared to the non-Hispanic White peer. A two-factor ANOVA tested the interaction effect and main effects of (a) ethnic group membership by (b) extracurricular activity with four levels (athletics, clubs, athletics in combination with clubs, and nonparticipation). Also, simple main effects of extracurricular activity on GPA among ethnic groups were estimated. Additionally, post

hoc analyses follow to answer if specific extracurricular activities (athletics, clubs, athletics in combination with clubs, and nonparticipation) were related to GPA for Hispanic and non-Hispanic students separately. Effect sizes were calculated by subtracting the control group GPA from the experiment group and dividing by the standard deviation of the control group.

#### Research Question 4

Fourth, the sample of multicultural soccer playing students allowed examination of GPA scores both before and during extracurricular activity participation. It was only for these students that all three trimester GPAs were available. Furthermore, for extracurricular soccer the minimum 2.0 GPA was not required for competitive play. This may give a clearer picture of the role athletic extracurricular activity participation plays in Hispanic students' GPAs. All students in this sample are Hispanic and may participate and compete in this athletic activity irrespective to GPA.

The fourth research question pertained to the relationship of GPA and participation across trimesters. Because three trimester GPAs were treated as the dependent variables, a one-way repeated-measures ANOVA was conducted with GPA as a within-subjects factor to test if there is a significant difference between first trimester (no participation) and second and third trimesters (participation) during the 2006-2008 school years. The between-subjects repeated-measures ANOVA tested the relationship between participation and GPA over the three trimesters.

### *Summary*

Overall, this study is designed to investigate the differential relation of extracurricular activity participation on Hispanic students' GPA scores compared to non-Hispanic White students. District data may help create a better understanding of Hispanic students' extracurricular participation trends, and the GPA associated with those choices. As high school administrators look for creative ways to connect a growing minority population to academics, extracurricular activities may provide that connection.

## CHAPTER IV

### RESULTS

The purpose of this study was to investigate the relation between participation in extracurricular activities and Hispanic student GPA. This study analyzed data for 6,927 Hispanic and non-Hispanic White, high school freshmen admitted from fall 2006 through fall 2008 to test the first three hypotheses. These students were categorized into one of the following four participation groups: athletics, clubs, athletics and clubs, and nonparticipant. For the fourth hypothesis, 53 Hispanic multicultural soccer players, also enrolled from fall 2006 through fall 2008, were investigated.

Statistical analyses tested the following four hypotheses:

*Hypothesis 1:* Ninth-grade students who participate in extracurricular activities will have significantly higher freshman year GPAs than nonparticipants.

*Hypothesis 2:* Hispanic and non-Hispanic White students who participate in athletics, clubs, and athletics in combination with clubs, as well as nonparticipants, will achieve a 2.0 GPA or greater at different rates.

*Hypothesis 3:* The effect of extracurricular activity participation on freshman year GPA will be greater for Hispanic students than for non-Hispanic White students.

*Hypothesis 4:* Hispanic participation in an athletic activity that does not require a minimum 2.0 GPA for competitive participation is positively related to GPA across trimesters.

### *Description of Data*

The dependent variable freshman year GPA was a continuously scaled variable. GPAs were divided using a 2.0 cutscore for chi-square analyses. Levels of the independent variable ethnicity were Hispanic and non-Hispanic White. Levels of the independent variable extracurricular activities were athletics, clubs, athletics in combination with and clubs, and nonparticipation.

Frequencies for extracurricular activities by ethnicity are presented in Table 4 and Figure 2. Athletic and club extracurricular activities are represented, along with participation in athletics in combination with clubs, or nonparticipation. It was found that the greatest percentage difference in participation was between Hispanic and non-Hispanic White athletic participation. A difference of 19.2% was found between athletic participation of non-Hispanic White and Hispanic students; far fewer Hispanic students were found to participate in athletic activities. Only a 3% discrepancy was found between participation percentages in club activities, showing that both Hispanic and non-Hispanic White students are active in clubs. The largest percentage of the sample was the Hispanic group of nonparticipants who participated in neither athletic nor club activity (75%).

Figure 2 provides a graphic representation of these percentages.

Summary statistics for mean freshman year GPA scores are presented in Table 5. The mean GPA score for the entire sample of Hispanic students was 1.86 with a 1.10 standard deviation (*SD*). The sample of non-Hispanic White students' average freshman year GPA was 2.74 (*SD* = 1.06).

TABLE 4. Type of Extracurricular Activity by Ethnicity

Extracurricular activity	Hispanic		Non-Hispanic White	
	<i>n</i>	%	<i>n</i>	%
Athletics	125	8.9	1,553	28.1
Clubs	180	12.8	870	15.8
Athletics and clubs	47	3.3	498	9.0
Nonparticipants	1,058	75.0	2,596	47.1
Total	1,410	100.0	5,517	100.0

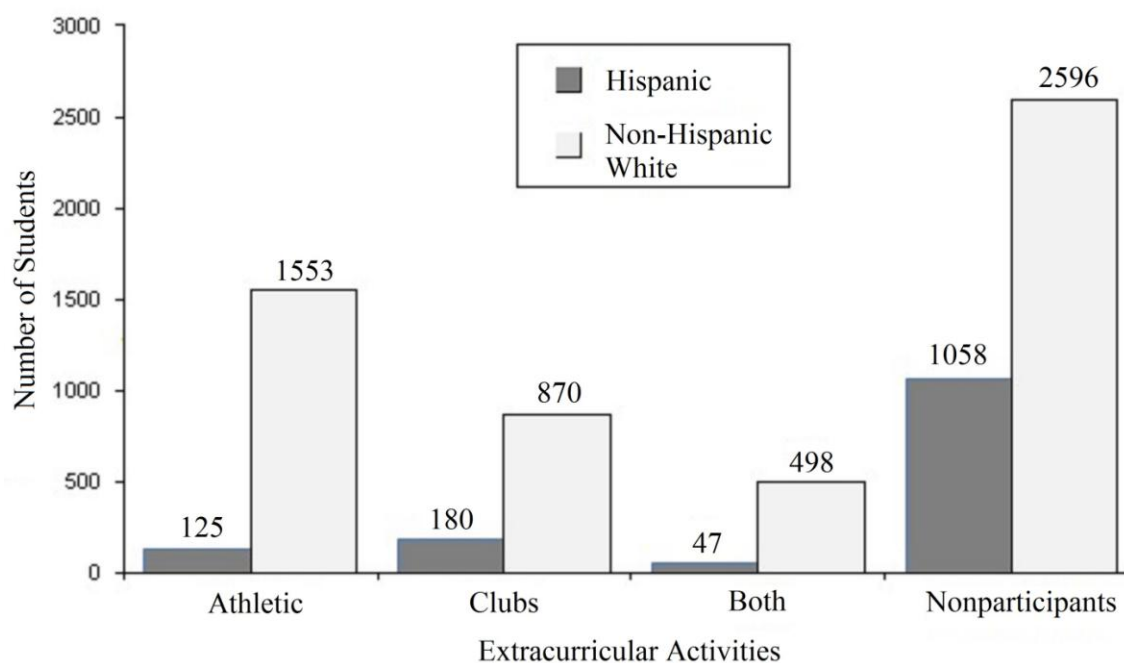


FIGURE 2. Extracurricular participation demographics of Hispanic and non-Hispanic White students.

TABLE 5. Hispanic and Non-Hispanic White Students' Average Freshman Year GPA Characteristics

Ethnicity	<i>M</i>	<i>SD</i>
Hispanic ( <i>n</i> = 1,410)	1.86	1.10
Non-Hispanic White ( <i>n</i> = 5,517)	2.74	1.06

The freshman year GPA scores for students were broken down by each of the four extracurricular activity categories to examine the changes in GPA (see Table 6 and Figure 3). For Hispanic students, it was found that those who participated in athletic activities had the highest average freshman year GPA score ( $M = 2.37, SD = 1.04$ ), followed by those who participated in athletics in combination with clubs ( $M = 2.27, SD = 1.10$ ). It is important to note that the athletic activities include a district-mandated 2.0 average GPA requirement, in order to participate competitively in those athletic activities. Yet the Hispanic freshman year GPA scores for athletic activities ( $M = 2.37, SD = 1.04$ ) are still higher than the required 2.0 GPA. It was also found that those Hispanic students who participated in clubs ( $M = 1.98, SD = 1.13$ ), which do not have the 2.0 GPA minimum requirement, also earned a higher GPA than nonparticipants ( $M = 1.76, SD = 1.09$ ). Figure 3 provides a graphic representation of these percentages.

TABLE 6. Extracurricular Activity by Ethnicity Freshman Year GPA Demographics

Extracurricular activity	Hispanic ( $n = 1,410$ )		Non-Hispanic White ( $n = 5,517$ )	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Athletics	2.37	1.04	3.10	0.80
Clubs	1.98	1.13	2.92	0.96
Athletics and clubs	2.27	1.10	3.26	0.72
Nonparticipants	1.76	1.09	2.37	1.15

Before conducting analyses for the first three hypotheses, three assumptions were tested: (a) the assumption of independence, (b) the assumption of the normal freshman

year GPA distribution for each level of the independent variables, and (c) the homogeneity of variance.

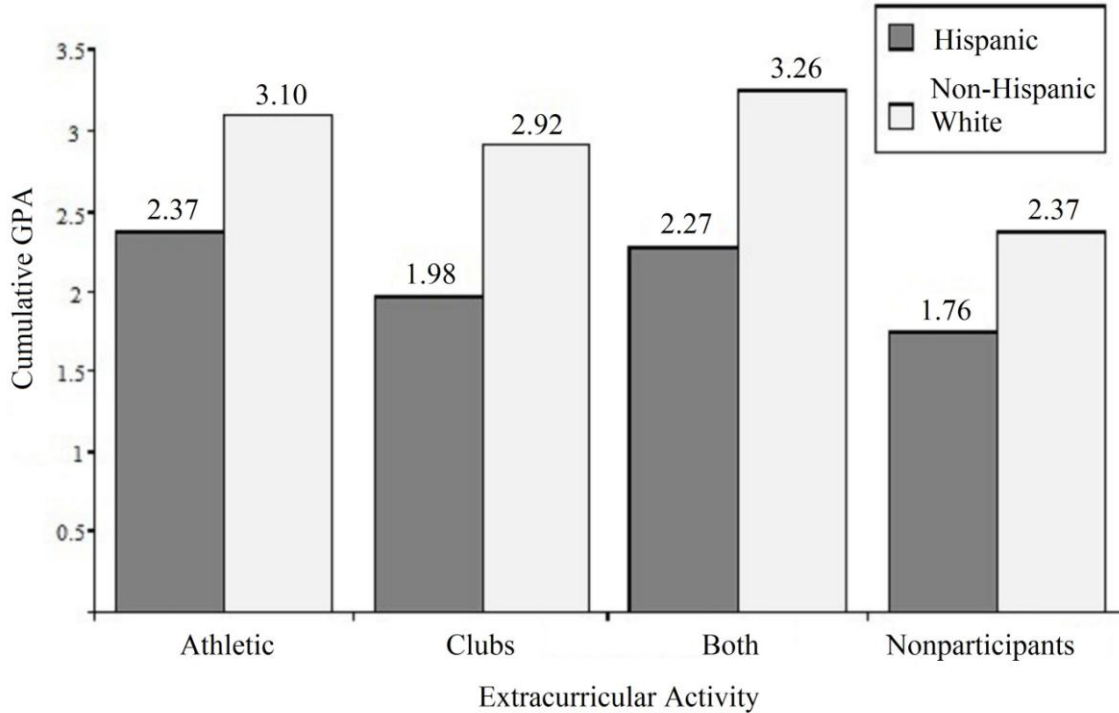


FIGURE 3. Freshman year GPA for extracurricular activities by Hispanic and non-Hispanic White students.

#### Assumption 1: Independent Samples

The samples of both Hispanic and non-Hispanic White students are independent. The values of the students' freshman year GPA scores do not provide any clues as to how any of the other students should score; that is, one student's freshman year GPA does not depend on another's. The means and standard deviations for the GPA measure as a function of the two factors are presented in Table 7.



TABLE 7. Means and Standard Deviations of Extracurricular Activities

	Athletics	Clubs	Athletics and clubs	Nonparticipants
Hispanic	2.37	1.98	2.27	1.76
( <i>n</i> = 1,410)	(1.04)	(1.13)	(1.10)	(1.09)
Non-Hispanic White	3.10	2.91	3.26	2.37
( <i>n</i> = 5,517)	(0.80)	(0.96)	(0.72)	(1.07)

*Note.* Standard deviations shown in parentheses.

Assumption 2: Normal Freshman Year GPA Distribution  
for Each of the Sample Populations

The second assumption for the two-way ANOVA is that the dependent variable (GPA) is normally distributed for the samples within each of the levels of this analysis. The assumption was tested using skewness and kurtosis, as well as the Kolmogorov-Smirnov test of normality. Table 8 shows the skew and kurtosis values, which suggest those less than the absolute value of 1 indicate a normally distributed variable. The skewness and kurtosis results suggest that, for Hispanics, only the athletic and nonparticipant variables are normally distributed. The test for normal distribution found non-Hispanic White clubs and nonparticipant variables were also normally distributed. Skewness and kurtosis suggest that only four of eight of the variables were normally distributed.

In addition to skewness and kurtosis values, Kolmogorov-Smirnov and Shapiro-Wilks tests for normality were conducted. Table 9 suggests a nonnormal distribution to the dependent freshman year GPA variable. To count as sufficiently normal, the *p*-value in the final column should be nonsignificant (that is, it should be greater than .05).

TABLE 8. Skewness and Kurtosis Values Showing Distribution of Freshman Year GPA Variable

Extracurricular activity	Hispanic		Non-Hispanic White	
	Skewness	Kurtosis	Skewness	Kurtosis
Athletics	-0.296 (.217)	-0.773 (.430)	-1.040 (.062)	0.886 (.124)
Clubs	0.210 (.181)	-1.155 (.360)	-0.974 (.083)	0.269 (1.66)
Athletics and clubs	0.113 (.347)	-1.039 (.681)	-1.294 (.109)	1.686 (.218)
Nonparticipants	0.156 (.075)	-0.958 (.150)	-0.380 (.048)	-0.885 (.096)

*Note.* Standard deviations shown in parentheses.

Because the Kolmogorov-Smirnov test shows significance, it indicates that the distribution is significantly different from a normal distribution. Only for the Hispanic athletic, and athletic and clubs, variables was the assumption of normal distribution met. However, it is important to note that with a very large sample, these tests may be overpowered.

TABLE 9. Kolmogorov-Smirnov Significance Levels Showing Distribution of Freshman Year GPA Variable

	Hispanic			Non-Hispanic White		
	<i>F</i> Statistic	<i>df</i>	<i>p</i> -value	<i>F</i> Statistic	<i>df</i>	<i>p</i> -value
Athletics	.063	125	.200	.131	1,553	.000
Clubs	.093	180	.001	.132	870	.000
Athletics and clubs	.094	47	.200	.154	498	.000
Nonparticipants	.063	1,058	.000	.079	2,596	.000

### Assumption 3: Homogeneity of Variance

For the four levels of extracurricular participation, results of the test for homogeneity of variance are reported in Table 10. The test for the Hispanic participants was not significant, *Levene test*  $F(3, 1,410) = 1.101, p = .348$ . The test for homogeneity of variance for non-Hispanic Whites was significant, *Levene test*  $F(3, 5,517) = 155.169, p = .000$ . These results suggest that the non-Hispanic White homogeneity of variances was not met; however, the sample has power because the total number of students is 6,927. It is important to note that with a very large sample, these tests may be overpowered.

TABLE 10. *Levene F* Statistics Showing Homogeneity of Variance Based on Freshman Year GPA

Ethnicity	<i>F</i> Statistic	<i>df</i>	<i>p</i> -value
Hispanic ( <i>n</i> = 1,410)	1.101	3	0.348
Non-Hispanic White ( <i>n</i> = 5,517)	155.169	3	0.000

### *Research Question 1*

The research hypothesis was that ninth-grade students who participate in extracurricular activities will have significantly higher freshman year GPAs than nonparticipants.

Independently, for Hispanic and non-Hispanic White freshman students, the association of participation on GPA was tested using an independent samples *t* test with an alpha level of .05. The *t* test was conducted to evaluate whether the freshman year

GPA for both Hispanics and non-Hispanic Whites differed significantly as a function of their participation in extracurricular activities (athletics, clubs, athletics in combination with clubs) versus nonparticipants.

For Hispanic students, the test was significant,  $t(592) = -5.86, p < .05$ . The 95% confidence interval for GPA means ranged from -0.53 to -0.26. An examination of the group means, as seen in Table 11, indicate that Hispanic participants in extracurricular activities ( $M = 2.16, SD = 1.11$ ) achieved significantly higher mean GPAs than did nonparticipants ( $M = 1.76, SD = 1.09$ ).

For non-Hispanic White students, the test was significant,  $t(4721) = -25.64, p < .05$ . The 95% confidence interval for GPA means ranged from -0.76 to -0.65. Table 11 similarly shows the independent samples  $t$  test results evaluating the significance of the significant mean GPA differences for non-Hispanic White participants versus nonparticipants. Non-Hispanic White students who participated ( $M = 3.08, SD = 0.85$ ) achieved significantly higher mean GPAs than nonparticipants ( $M = 2.37, SD = 1.15$ ). These results suggest there was a significant difference between both Hispanic and

TABLE 11. Hispanic and Non-Hispanic White Means for Participants and Nonparticipants

Ethnicity	Extracurricular activity				$t$	$df$
	Participants		Nonparticipants			
	$M$	$SD$	$M$	$SD$		
Hispanic	2.16	1.11	1.76	1.09	-5.87*	592
Non-Hispanic White	3.08	0.85	2.37	1.15	-25.64*	4,721

\* $p < .05$ .

non-Hispanic White students' mean GPA for extracurricular participants and nonparticipants. Specifically, the results suggest that when Hispanic and non-Hispanic White students participate in extracurricular activities, they achieve higher mean GPAs.

### *Research Question 2*

The second research question focused on the relation between participation in extracurricular activities (athletics, clubs, athletic in combination with clubs) or nonparticipation and dichotomized GPA based on a 2.0 cutscore for ninth-grade Hispanic and non-Hispanic White students.

The chi-square results presented below are the Hispanic and non-Hispanic White students' patterns of extracurricular activity and freshman year GPAs. First, a contingency table analysis was conducted to test the relation between Hispanic and non-Hispanic White students and extracurricular activities. Second, a contingency table analysis was conducted to understand if Hispanic and non-Hispanic White students achieve a GPA of 2.0 or greater at different rates.

Third, a chi-square test of independence tested whether Hispanic students who participate in extracurricular activities (athletics, clubs, athletics in combination with clubs) or Hispanic nonparticipants achieve a 2.0 or greater at different rates. Fourth, a chi-square test of independence tested whether non-Hispanic White students who participate in extracurricular activities (athletics, clubs, athletic in combination with clubs, and nonparticipants) achieve a 2.0 or greater at different rates.

### Participation in Extracurricular Activities by Ethnicity

It was hypothesized that the proportion of Hispanic students participating in extracurricular activities is different to the proportion of non-Hispanic White students participating in extracurricular activities.

A chi-square test of independence confirmed the hypothesis that a relation exists between participation in extracurricular activities and Hispanic and non-Hispanic White students,  $\chi^2(3, N = 6927) = 19.29, p < .05$ . Based on the column percentages in Table 12, the athletic extracurricular activity variable and the nonparticipant activity variable are likely producing the significant result. The significant result is likely a result of the athletic and nonparticipant variables because they show the largest differences: 19.2% on athletic extracurricular activity (8.9% - 28.1%) and 27.9% on either athletic or club extracurricular activity (75.0% - 47.1%). We would expect to see a higher proportion

TABLE 12. Contingency Table for Relation Between  
Extracurricular Activities and Ethnicity

Extracurricular activity	Hispanic	Non-Hispanic White	$\chi^2$
	%	%	
Athletics	8.9	28.1	19.29*
Clubs	12.8	15.8	
Athletics and clubs	3.3	9.0	
Nonparticipants	75.0	47.1	
Total	100.0	100.0	

\* $p < .05$ .

of one ethnic group in certain extracurricular activities than the other ethnic group. Because  $p < .05$ , we reject the null hypothesis and conclude that the differences between ethnicity and extracurricular activities are not due to chance. Based on the results it was found that a strong relation exists between extracurricular activity and ethnicity ( $p < .05$ ). This suggests that Hispanic and non-Hispanic White students' extracurricular activity participation is related to their ethnic group membership.

#### Freshman Year GPA ( $< 2.0$ and $\geq 2.0$ ) by Ethnicity

It was hypothesized that the proportion of Hispanic students' freshman year GPA ( $< 2.0$  and  $\geq 2.0$ ) is of different proportion to non-Hispanic White students' mean GPA ( $< 2.0$  and  $\geq 2.0$ ).

A chi-square test of independence was performed to examine the relation between a dichotomy of grades, based on a 2.0 freshman year GPA, and ethnicity. The chi-square test of independence confirmed the hypothesis that a relation exists between freshman year GPA (using a cutscore of 2.0) and ethnicity,  $\chi^2(1, N = 6,927) = 544.49, p < .05$ . Column percentages can be seen in Table 13. Students' mean cutscore freshman year GPAs were found to be related to their ethnicity and therefore not due to chance. Hispanic and non-Hispanic White students achieved a GPA of 2.0 or greater at different rates. It is important to note that the district requires students to have at least a 2.0 cumulative GPA in order to participate in athletic extracurricular activities. Club activities do not have the required 2.0 minimum cumulative GPA. While these results may confirm the achievement gap (77% of non-Hispanic Whites  $\geq 2.0$ , 46% Hispanic  $\geq 2.0$ ), it does

TABLE 13. Contingency Table for Hispanic and Non-Hispanic White Students and Freshman Year GPA Based on 2.0 Cutscore

Ethnicity	GPA				$\chi^2$
	< 2.0	%	$\geq 2.0$	%	
Hispanic ( <i>n</i> = 1,410)	763	54	647	46	544.49*
Non-Hispanic White ( <i>n</i> = 5,517)	1,243	23	4,274	77	

\* $p < .05$ .

show that participation excites higher GPA performance. The 2.0 requirement for competitive play may provide incentive to achieve.

#### Hispanic Freshman Year GPA by Extracurricular Activity

It was hypothesized that Hispanic students' mean GPA cutscore ( $< 2.0$  and  $\geq 2.0$ ) and the extracurricular activity variables (athletics, clubs, athletics in combination with clubs, nonparticipation) are dependent (i.e., there is a relation between the two).

This test for independence confirmed the hypothesis that a relation exists between extracurricular activity and Hispanic students' freshman year GPA based upon a 2.0 cutscore,  $\chi^2(3, N = 1410) = 27.39, p < .05$ ). Table 14 presents the findings that a relation was found. These results suggest that there is an association; the relation between Hispanic GPA and extracurricular activity is not due to chance. Hispanic students who participate in extracurricular activities (athletics, clubs, athletic in combination with clubs) and Hispanic nonparticipants achieve a 2.0 GPA or greater at different rates. The significant



TABLE 14. Contingency Table for Relation Between Hispanic Extracurricular Activity and Freshman Year GPA

Extracurricular activity	Hispanic mean GPA cutscores				$\chi^2$
	< 2.0	%	$\geq 2.0$	%	
Athletics	45	6	80	12	27.39*
Clubs	94	12	86	13	
Athletics and clubs	17	2	30	5	
Nonparticipants	607	80	451	70	
Total	763	100	647	100	

\* $p < .05$ .

result is likely because of the Hispanic athletic participation variable that shows the largest difference: only 6% < 2.0 and 12%  $\geq 2.0$ . This result may reflect the incentive of the 2.0 GPA requirement for competition in interschool athletic events.

#### Non-Hispanic White Freshman Year GPA by Extracurricular Activity

It was hypothesized that Non-Hispanic White mean GPA cutscore (< 2.0 and  $\geq 2.0$ ) and the extracurricular activity variables (athletics, clubs, athletic in combination with clubs, nonparticipation) are dependent (i.e., there is a relation). The results help to assess whether the mean GPA of non-Hispanic White students (based on a 2.0 cutscore) differed for extracurricular activity.

Table 15 presents the findings that a relation was found,  $\chi^2(3, N = 1,410) = 527.13, p < .05$ ). These results suggest that there is a relation; non-Hispanic White students who participate in extracurricular activities (athletics, clubs, athletics in combination with clubs) and non-Hispanic White nonparticipants achieve a 2.0 GPA or

TABLE 15. Contingency Table for Relation Between Non-Hispanic White Extracurricular Activity and Freshman Year GPA

Extracurricular activity	Non-Hispanic White mean GPA cutscores				$\chi^2$
	< 2.0	%	$\geq 2.0$	%	
Athletics	142	11	1,411	33	527.13*
Clubs	144	12	716	17	
Athletics and clubs	26	2	472	11	
Nonparticipants	931	75	1,665	39	
Total	1,243	100	4,274	100	

\* $p < .05$ .

greater at different rates. On the basis of the percentages in Table 15, the nonparticipant activity variable is likely producing the significant result.

Table 16 shows the summary statistics for the results of the chi-square analyses. The freshman year GPA, based upon the dichotomous 2.0 cutscore for both Hispanic and non-Hispanic White students, and the extracurricular activity variables were found to be significantly related to GPA; there is a relation between them. These findings are important, as the next section will attempt to trace the sources of variation to explanatory factors by using analysis of variance (ANOVA) to test the interaction and main effects.

TABLE 16. Results of Chi-Square Analyses

Comparison	$\chi^2$	<i>df</i>
Extracurricular activity by ethnicity	19.29*	3
Freshman year GPA (< 2.0 and $\geq 2.0$ ) by ethnicity	544.49*	1
Hispanic extracurricular activity by freshman year GPA (< 2.0 and $\geq 2.0$ )	27.39*	3
Non-Hispanic White extracurricular activity by freshman year GPA (< 2.0 and $\geq 2.0$ )	527.13*	3

\* $p < .05$ .

In this regard, the second hypothesis was illustrated. A relation exists between GPA and extracurricular activities for Hispanic and non-Hispanic White students; the relation is not due to chance.

### *Research Question 3*

The research hypothesis was that the effect of extracurricular activity participation on freshman year GPA will be larger for Hispanic students than for non-Hispanic White students.

Differences in mean GPAs and effect sizes of the extracurricular activity groups by ethnicity were tested with a two-way analysis of variance (ANOVA). To determine whether participating in extracurricular activities had a significant relation to freshman year GPA, a 2 x 4 (ethnicity x extracurricular) ANOVA was conducted to evaluate the associations of extracurricular activities and the freshman year GPA of Hispanic and non-White Hispanic students. The two-way ANOVA was utilized in order to test both interaction and main effects of the independent variables (extracurricular activity and Hispanic or non-Hispanic White ethnicity) and the dependent variable (freshman year GPA).

Before the two-way ANOVA test was conducted, three assumptions were tested: the assumption of independence, the assumption of the normal freshman year GPA distribution for each level of the independent variables, and homogeneity of variance. The assumption of independence had been met because the groups are independent of each other. The test for normality, examining skewness and kurtosis and Kolmogorov-

Smirnov, indicated the data were statistically normal. The test for homogeneity of variance for Hispanics was not significant, *Levene test*  $F(3, 1,410) = 1.101, p = .348$ , allowing for Tukey post hoc tests. The test for homogeneity of variance for non-Hispanic Whites was significant, *Levene test*  $F(3, 5,517) = 155.169, p = .000$ , suggesting Games-Howell post hoc tests are appropriate (Kromrey & La Rocca, 1995).

The two independent variables in this study are ethnic group membership (Hispanic and non-Hispanic White) and extracurricular activity (athletics, clubs, athletics in combination with clubs, and nonparticipation). The dependent variable is freshman year GPA with higher scores indicating higher levels of academic achievement. The means and standard deviations for the freshman year GPA measure as a function of the two factors are presented in Table 7.

#### Interaction Effect

It was hypothesized that freshman year GPAs for Hispanic and Non-Hispanic White students' athletic, clubs, athletic and clubs extracurricular activities and nonparticipants would not be equal. That is, it was hypothesized that there are differences among Hispanic and non-Hispanic White students' freshman year GPA means that cannot be attributable to the main effects; there is an interaction between the two independent variables (ethnicity and extracurricular activity).

The results show an ordinal interaction between ethnicity and extracurricular activities,  $F(3, 6,919) = 5.798, p = .001$ , partial  $\eta^2 = .003$  (see Table 17), indicating that any differences between extracurricular activity (or lack thereof) were dependent upon

which ethnicity the subjects were, and that any differences between Hispanics and non-Hispanic Whites were dependent upon which extracurricular activity they participated in (see Figure 4 for a graph of this ordinal interaction). The effect of extracurricular activity changes depending on the ethnicity of the student. The difference of the means varies, but remains in the same order for the four levels of extracurricular activity. Figure 4 shows a main effect of ethnicity, a main effect of extracurricular activity, and an ordinal interaction.

TABLE 17. Two-way Analysis of Variance for Freshman Year GPA

	Sum of squares	<i>df</i>	Mean square	<i>F</i>	<i>p</i> -value	Eta <sup>2</sup>
Extracurricular Activity (EA)	278.501	3	92.834	89.532	.000	.037
Ethnicity	268.414	1	268.414	258.868	.000	.036
EA x Ethnicity	18.035	3	6.012	5.798	.001	.003
Error	7,174.147	6,919	1,037			
Total	7,739.098	6,927				

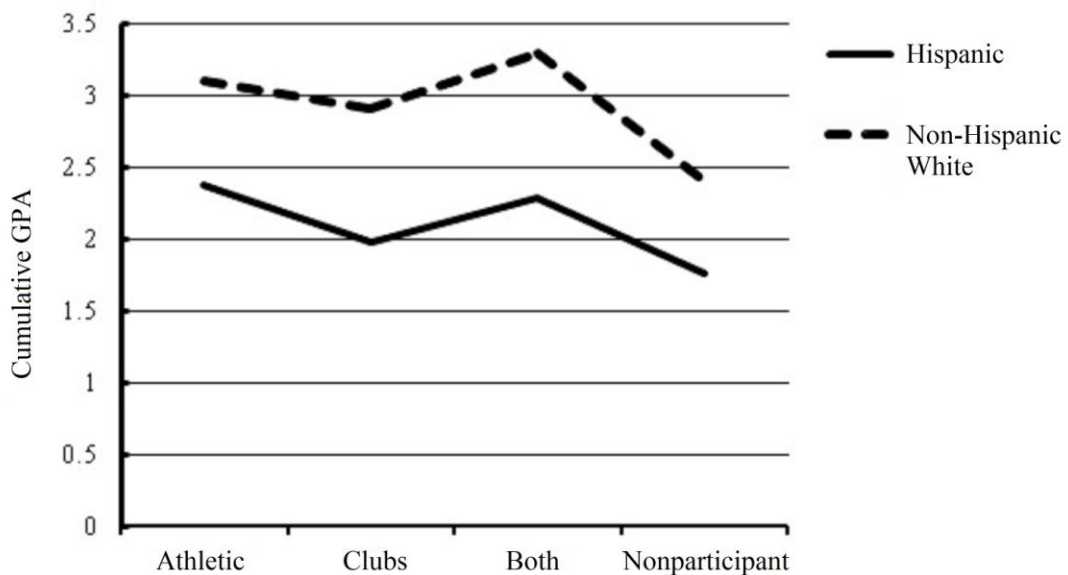


FIGURE 4. Ordinal interaction of freshman year GPA for Hispanic and non-Hispanic White students.

Because the ordinal interaction between ethnicity and extracurricular activity was significant ( $p = .001$ ), we confirm the hypothesis that the relation of extracurricular participation on GPA is different for Hispanic students compared to non-Hispanic White students. These results show a difference in the freshman year GPA of Hispanic and non-Hispanic White students who fall into one of four (athletics, clubs, athletics and clubs, nonparticipant) different extracurricular activity variables; however, these results suggest there is an ordinal interaction between the two independent variables. A difference in level between the two lines in Figure 4 indicates a main effect of ethnicity and a main effect of extracurricular activity.

### Hispanic and Non-Hispanic White Extracurricular Activity

#### Simple Main Effects

It was hypothesized that there is a statistically significant difference between athletics, clubs, athletics and clubs, and nonparticipants in terms of a difference in freshman year GPA for Hispanic and non-Hispanic White students.

The simple main effects for Hispanics and non-Hispanic Whites were examined independently. Two analyses were implemented to address the hypothesis that the effect of extracurricular activity participation will be larger for Hispanic students compared to the non-Hispanic White students. These included an ANOVA for the Hispanic and an ANOVA for the non-White Hispanic students in the study. The alpha level was set for each at .05 To control for Type I error across both Hispanic and non-Hispanic White extracurricular activity simple main effects.

Table 18 presents findings for Hispanic students. Overall, the types of extracurricular activity Hispanic students participated in had a significant relation to the difference in GPA scores,  $F(3, 1,409) = 14.88, p = .000$ . This means that different extracurricular activities contribute to the variation between the differences in Hispanic freshman year GPA scores. There is a significant difference between at least one pair of the Hispanic extracurricular activities in this study.

TABLE 18. ANOVA Results for Hispanic Extracurricular Activities' Effect on Differences in Freshman Year GPA

	Sum of squares	<i>df</i>	Mean square	<i>F</i>	<i>p</i> -value
Between groups	53.36	3	17.78	14.88	.000
Within groups	1,679.81	1,406	1.19		
Total	1733.15	1,409			

Table 19 similarly shows there was a significant difference among the four extracurricular activities (levels of participation) for non-Hispanic White students,  $F(3, 5,516) = 242.41, p = .000$ . Overall, the type of extracurricular activity the non-Hispanic White students participated in was related to the difference in GPA scores. This means that different extracurricular activities contribute to the variation between the differences in freshman year GPA scores. There is a significant difference between at least one pair of the non-Hispanic White students' extracurricular activities in this study.

Because the test for homogeneity of variance for Hispanics was not significant, *Levene test*  $F(3, 1,410) = 1.101, p = .348$ , post hoc comparisons using Tukey procedures were conducted to determine which pairs of the four group means (extracurricular

activities) differed significantly for Hispanic students. The alpha level was set at .05 to control for Type I error over the four pairwise comparisons.

TABLE 19. ANOVA Results for Non-Hispanic White Extracurricular Activities' Effect on Differences in Freshman Year GPA

	Sum of squares	<i>df</i>	Mean square	<i>F</i>	<i>p</i> -value
Between groups	724.76	3	241.59	242.41	.000
Within groups	5,494.34	5,513	0.99		
Total	6,219.00	5,516			

#### Post Hoc Comparisons on Freshman Year GPA

##### for Hispanic Extracurricular Activity

Table 20 shows that if a difference was found to be negative, this indicates that on average the extracurricular activity listed in the “I” column has a lower freshman year GPA when compared to the sport in column “J,” extracurricular activity. Conversely, if the difference between freshman year GPA scores was positive, this would mean that the sport in column “I” would have a higher freshman year GPA than that extracurricular activity in the “J” column.

These results for Hispanic students (see Table 20) indicate several significant findings. For example, students who participated in athletic activities ( $M = 2.37$ ,  $SD = 1.04$ ) earned significantly higher freshman year GPAs than did nonparticipants ( $M = 1.76$ ,  $SD = 1.09$ ) and club participants ( $M = 1.98$ ,  $SD = 1.13$ ). The effect sizes for these two significant effects were 0.55 and 0.21, respectively. All three levels of participant (athletics, clubs, and athletic in combination with clubs) were significantly higher GPAs than all those for nonparticipants. It was found that Hispanic students who participated in



athletic activities, when compared to Hispanic nonparticipants, had a .606 unit difference in freshman year GPA scores. Hispanic students who participated in athletic and clubs combined had on average a freshman year GPA score .507 higher than students who did not participate in either.

TABLE 20. Tukey Post Hoc Results for Freshman Year GPA by Hispanic Extracurricular Activity

Extracurricular activity	Mean	Mean differences			
		1(J)	2(J)	3(J)	4(J)
1. Athletics	2.37	--			
2. Clubs	1.98	-.380* (0.37)	--		
3. Athletics and clubs	2.27	-.099	.280	--	
4. Nonparticipation	1.76	-.606* (0.55)	-.227* (0.21)	-.507* (0.46)	--

Note. Effect sizes shown in parentheses.

\* $p < .05$ .

#### Post Hoc Comparisons on Freshman Year GPA for Non-Hispanic White Extracurricular Activity

Because the test for homogeneity of variance for non-Hispanic Whites was significant, *Levene test*  $F(3, 5517) = 155.169, p = .000$ , post hoc comparisons using Games-Howell procedures were conducted to determine which pairs of the four group means (extracurricular activities) differed for non-Hispanic White students. The alpha level was set at .05 to control for Type I error over the four pairwise comparisons.

The results are given in Table 21 and show that if a difference was found to be negative, this indicates that on average the extracurricular activity listed in the “I” column has a lower freshman year GPA when compared to the sport in the column “J” extracurricular activity. Conversely, if the difference between freshman year GPA scores was positive, this would mean that the sport in column “I” would have a higher freshman year GPA than that extracurricular activity in the “J” column.

TABLE 21. Games-Howell Post Hoc Results for Freshman Year GPA by Non-Hispanic White Extracurricular Activity

Extracurricular activity	Mean	Mean differences			
		1(J)	2(J)	3(J)	4(J)
1. Athletics	3.10	--			
2. Clubs	2.92	-.180* (0.18)	--		
3. Athletics and clubs	3.26	-.166	.346	--	
4. Nonparticipation	2.37	-.731* (0.68)	-.551* (0.51)	-.897* (0.83)	--

Note. Effect sizes shown in parentheses.

\* $p < .05$ .

These results for non-Hispanic Whites are given in Table 21 and indicate several significant findings. For example, students who participated in athletics in combination with clubs ( $M = 3.26$ ,  $SD = 0.72$ ) earned significantly higher freshman year GPAs than did students who did not participate ( $M = 2.37$ ,  $SD = 1.15$ ), with an effect size of 0.83. The results also indicate that non-Hispanic White students who participated in athletics and clubs ( $M = 3.26$ ,  $SD = 0.72$ ) had higher freshman year GPA scores than those non-

Hispanic White students who participated in athletics ( $M = 3.10$ ,  $SD = 0.80$ ) and clubs ( $M = 2.92$ ,  $SD = 0.96$ ).

The largest significant mean difference was found between (a) non-Hispanic White students who participated in combined athletic and club activities and (b) non-Hispanic White students who did not participate; the results showed a .897 unit difference in freshman year GPA scores between these two groups. Non-Hispanic White students who participated in athletics and clubs combined had a freshman year GPA score .346 higher than students who participated only in clubs.

Regarding the hypothesis that the effect of extracurricular activity participation will be greater for Hispanic students compared to the non-Hispanic White students, one significant difference between Hispanic and non-Hispanic White GPAs was found in which the effect was greater for Hispanic students. This is not to diminish the meaningfulness of the other relations for Hispanic students that were found. Statistically significant mean differences were found for both Hispanic and non-Hispanic Whites' freshman year GPAs when comparing participation in athletics to participation in clubs. The results indicate a greater effect for Hispanics (0.37) than non-Hispanic Whites (0.18), indicating a larger freshman year GPA difference between Hispanics who participate in athletics versus clubs than non-Hispanic Whites who participate in athletics versus clubs.

A review of the comparisons of participation in athletics, clubs, and athletics and clubs to the non-participant group means indicated statistically significant mean differences for all three comparisons for both Hispanic and non-Hispanic White students. All three activity groups of both Hispanics and non-Hispanic Whites indicated

statistically significant differences when compared to nonparticipants. The effect size for Hispanic nonparticipants and clubs (0.21) was smaller than non-Hispanic White nonparticipants (0.51). Participation in athletics, clubs, and athletics in combination with clubs had an effect for both non-Hispanic White and Hispanic students.

The Hispanic 0.55 effect size compared to the 0.68 non-Hispanic White effect size for the comparison between athletic and nonparticipant suggests a stronger relation for non-Hispanic White students who participate in athletic activities versus Hispanic students. The size of the difference between athletic participation and non-participation is larger for non-Hispanic White than for Hispanic students. Only the Hispanic effect for athletics versus clubs (0.37) was larger for Hispanic students than for their non-Hispanic White peer (0.18).

#### *Research Question 4*

The final research hypothesis was that Hispanic participation in an athletic activity that does not have a minimum 2.0 GPA requirement for competitive participation is positively related to GPA across trimesters.

Differences in mean GPAs of Hispanic, multicultural soccer participants over three trimesters were tested with a repeated-measures ANOVA with the GPA as a within-subjects factor. The repeated-measures ANOVA tested the mean GPAs of Hispanics who, over three trimesters, participated in an athletic activity that does not have a 2.0 minimum GPA requirement for competitive participation. The independent variable was the three-trimester period, during which students were nonparticipants during the first trimester and

participants during the second and third trimesters. The dependent variable was GPA by trimester.

Descriptive statistics provided frequency distributions and percentages on student background characteristics and ensured a normal distribution of the sample. Presented in Table 22 are the characteristics of the sample of students in the study. The total sample consisted of 52 Hispanic, male and female multicultural soccer players. Hispanics accounted for 100% of the sample. Summary statistics for cumulative GPA scores are presented in Table 22.

TABLE 22. Hispanic Multicultural Soccer Players' Cumulative GPA Characteristics by Trimester

Ethnicity	<i>M</i>	<i>SD</i>
Trimester 1	2.37	1.06
Trimester 2	2.33	1.03
Trimester 3	2.77	0.81

Before the repeated-measures ANOVA was conducted, four assumptions were met: the assumption of independence, the assumption of the normal cumulative GPA distribution, homogeneity of variance, and the sphericity assumption.

#### Assumption 1: Independent Samples

The sample of Hispanic multicultural soccer players was random over 3 years. The values of the students' GPAs do not provide any clues as to how any of the other participants in the sample should score; that is, one participant's cumulative mean

trimester GPA does not depend upon another's. There is no dependency in GPA between participants.

Assumption 2: Normal Cumulative Mean GPA Distribution  
for Each of the Sample Trimesters

The second assumption for the repeated measures ANOVA is that the dependent variable (GPA) is normally distributed for the first trimester of no participation and second and third trimesters of participation in the multicultural soccer club. The data were analyzed for skewness and kurtosis, and were subjected to the Kolmogorov-Smirnov and Shapiro-Wilks tests for normality. Table 23 shows the skew and kurtosis values, which suggest those less than the absolute value of 1 indicate a normally distributed variable. The skewness and kurtosis results suggest that the trimesters are normally distributed.

TABLE 23. Skewness and Kurtosis Values Showing Distribution of GPA Variable by Trimester

	Skewness	Kurtosis
Trimester 1	-0.29	-1.02
Nonparticipant	(0.33)	(0.65)
Trimester 2	-0.04	-1.13
Participant	(0.33)	(0.65)
Trimester 3	-0.27	-0.98
Participant	(0.33)	(0.65)

*Note.* Standard Error shown in parentheses.

In addition to skewness and kurtosis values, Kolmogorov-Smirnov and Shapiro-Wilks tests for normality were conducted. Table 24 suggests a normal distribution of the

dependent GPA variable. Trimesters 1 and 3 suggest a normal distribution because the  $p$ -value is nonsignificant.

TABLE 24. Kolmogorov-Smirnov Significance Levels Showing Distribution of Cumulative GPA Variable

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilks		
	$F$ Statistic	$df$	$p$ -value	$F$ Statistic	$Df$	$p$ -value
Trimester 1						
Nonparticipant	0.11	52	0.17	0.95	52	0.49
Trimester 2						
Participant	0.14	52	0.01	0.95	52	0.04
Trimester 3						
Participant	0.11	52	0.12	0.95	52	0.03

<sup>a</sup>Lilliefors significance correction.

### Assumption 3: Population Variances of the Dependent Variable Are Equal

The test for homogeneity of variance for Hispanic multicultural soccer players' cumulative mean GPA was significant, *Levene test*  $F(2, 153) = 3.82, p = .024$ . The test for homogeneity of variance for Hispanic GPA was significant; this suggests that the Hispanic homogeneity of variances is not valid. Because of the significant finding for the Hispanic multicultural soccer GPA data, the Brown-Forsythe test for homogeneity was used to compare median values for the sample. The assumption of homogeneity of variance was violated; therefore, the Brown-Forsythe and Welch  $F$  statistics are reported in Table 25.

TABLE 25. Brown-Forsythe and Welch Statistics Showing Homogeneity of Variance Based on Mean Cumulative GPA for Hispanic Multicultural Soccer Players

	Brown-Forsythe			Welch		
	<i>F</i> Statistic*	<i>df</i>	<i>p</i> -value	<i>F</i> Statistic*	<i>df</i>	<i>p</i> -value
Hispanic GPA ( <i>n</i> = 52)	3.30	2	0.040	3.87	2	0.024

\*Asymptotically *F* distributed.

#### Assumption 4: Sphericity Assumption

Mauchly's test indicated that the assumption of sphericity has been met,  $\chi^2(2) = 2.26, p = .323$ ; there is equality of variances of the differences between the three repeated-measures factors (trimesters). The relationship between pairs of trimesters is similar; i.e., the level of the dependence between pairs of trimesters is roughly equal.

The assumption of independence has been met; the observations are random and independent samples from the population. The test for normality, examining skewness and kurtosis, Kolmogorov-Smirnov and Shapiro-Wilks, indicated the data were statistically normal. The test for homogeneity of variance was significant, *Levene test*  $F(2, 153) = 3.82, p = .024$ , and Mauchly's test indicated the assumption of sphericity was met. The alpha level was set at 0.05 to control for Type I error.

#### Results of Repeated-Measures ANOVA

It was hypothesized that there would be a statistically significant difference between trimesters in terms of a difference in cumulative mean GPA for Hispanic multicultural soccer players.



The mean GPA was 2.36 for the first trimester (nonparticipant), 2.33 for the second trimester (participant), and 2.77 for the third trimester (participant). The one-way repeated-measures ANOVA (see Table 26) shows that these GPAs are significantly different,  $F(2, 102) = 13.269$ ,  $p < .05$ , partial  $\eta^2 = .206$ . Figure 5 appears to show that multicultural soccer participation produces an initial decrease in GPA, but that additional participation leads to greater GPAs. Figure 5 also shows the mean GPA differences for Hispanic students between trimesters.

TABLE 26. Repeated Measures Analysis of Variance for Hispanic GPA

	Sum of squares	<i>df</i>	Mean square	<i>F</i>	<i>p</i> -value	Eta <sup>2</sup>
Time effect	6.256	2	3.128	13.269	.000	.206
Error (time)	24.043	102	.236			

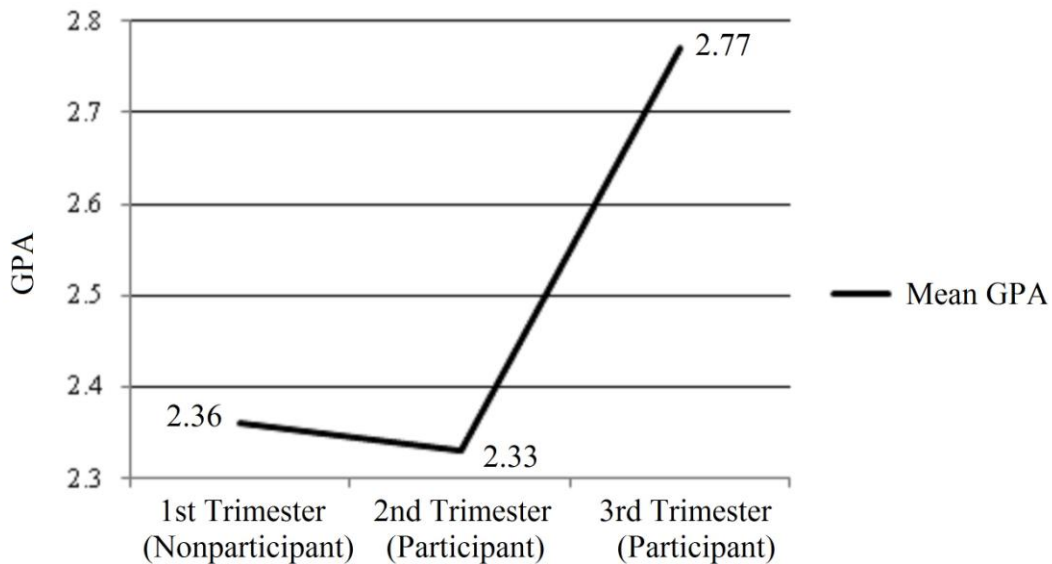


FIGURE 5. GPA for Hispanic multicultural soccer players by trimester.

## CHAPTER V

### SUMMARY AND DISCUSSION

This chapter is divided into five sections. The first section discusses the literature and goals of the study in regard to the results presented in Chapter IV. The second section presents the conclusions with respect to the research hypotheses. The third section discusses the implications of the study and its results, the fourth section discusses the limitations of this study, and the fifth section is a guide for further research.

#### *Relevant Literature and Study Findings*

This section discusses the results as outlined in Chapter IV and compares those results with the previous literature. The primary findings are discussed as they relate to the freshman year GPA scores of Hispanic and non-Hispanic White students across four extracurricular activity participation levels. This study set out to understand the relations and differences in GPA scores for Hispanic students with respect to participation in athletics, clubs, athletics in combination with clubs, or nonparticipation in extracurricular activities. The literature showed mixed results—i.e., that extracurricular activity participation may increase or decrease GPA scores—and this study's results support the two sides of the literature. Those two sides of the debate, as seen in the literature, are discussed with respect to the findings of this study.

McCarthy (2001) reported that students who participate in school-sponsored activities have been found to have statistically significant higher GPAs. Specifically, the

author found that students who participated in school activities had higher GPAs when compared to those who did not. Again, McCarthy found that participation in extracurricular activities has a positive relation with academic performance and achievement in high school.

The literature review also found further evidence of a statistically significant positive relation from Cooper et al. (1999), who reported that participation in extracurricular activities is associated with higher class grades. Cooper et al. also found that multiple after-school activities, rather than single activities in isolation, proved beneficial for students. Even after grade level and ethnicity were statistically controlled, Cooper et al. reported that participation in extracurricular activities was related with higher teacher-assigned grades.

Broh (2002), Gerber (1996), and Sabo et al. (1993) similarly found positive relations between extracurricular activity participation and academic achievement. More specifically, Broh (2002) found that the type of activity, whether athletic, club, or intramural, impacted GPA.

This study found evidence that supports the findings of Broh (2002), Cooper et al. (1999), Gerber (1996), McCarthy (2001), and Sabo et al. (1993) with respect to the relation between extracurricular activity and GPA. The findings reported in Chapter IV indicate that students who participate in extracurricular activities earn higher mean cumulative GPAs compared to those who do not participate, and chi-square results indicate that there is a relation between GPA of Hispanic and non-Hispanic White students and extracurricular activity. Similarly, Tukey post hoc comparisons for Hispanic

students' extracurricular activity illustrated many significant unit differences in cumulative GPA score.

According to McCarthy (2001), Hispanic students who participated in extracurricular activities had significantly higher GPAs than those Hispanic students who did not. His study of nearly 20,000 Hispanic students found mean GPA differences were .67 higher for participants versus nonparticipants. In the current study of over 1,400 Hispanic students, the mean GPA differences are .61 higher for athletic participants and .51 higher for participants in a combination of athletic and club extracurricular activities. According to the findings of both McCarthy (2001) and this study, Hispanic students' cumulative GPA scores were not as high as non-Hispanic White students'; however, it is still worth noting that when this study compared participation in athletics to clubs, effect sizes were larger for Hispanic students (0.37) than for non-Hispanic White (0.18) and each Hispanic mean difference between any level of the participation variable versus nonparticipation were statistically significantly higher.

A possible explanation for these findings can be seen because of the hypothesized connection to school that Hispanic students may experience as a result of their extracurricular participation. Diaz (2005) found that Hispanic youth are more likely to feel lower levels of school attachment; however, Diaz also observed higher GPAs when students were more attached to their schools. Brown and Evans (2002) illustrated that extracurricular activities boost minority students' social capital and connection to school; this increase in turn may improve their GPA or academic performance. Brown and Evans focused on the relation between youth participation in extracurricular activities and a

greater sense of school connection and found that students who participated, regardless of ethnicity, had greater levels of school connection.

Broh (2002) specifically studied the social capital between students and the school, and found that the social capital connection to school attributed to extracurricular activities and helped students improve their grades. According to Broh, social capital explained almost half of the effect of participation. The Social Capital model appears effective in creating a connection to school, thus explaining the academic benefits of participation in sports.

Overall, this study found that there were higher freshman year GPAs for both Hispanic and non-Hispanic White extracurricular participants compared to non-participants. Also, it was found that there is a relation between Hispanic and non-Hispanic White GPA and extracurricular activity. The results suggest multiple significant differences in freshman year GPA scores across four levels of extracurricular participation. The findings in Chapter IV indicated that there were 8 significant differences among the various levels of extracurricular activity assessed in this study. In other words, the results suggest that there is evidence provided in this study, in addition to the evidence discussed in the literature above, that extracurricular activities could provide statistically significant mean differences with respect to freshman year GPA. This study found that the largest mean differences in freshman year GPA for non-Hispanic Whites occurred between nonparticipation and involvement in athletics in combination with clubs (0.90); for Hispanics the largest freshman year mean GPA difference occurred between participation in athletics and nonparticipation (0.61).

These findings are similar to the overall evidence that (a) statistically significant GPA differences exist between extracurricular participants and nonparticipants, and (b) a relation exists between GPA and extracurricular activity. The next section's results illustrate the findings in relation to the three stated research hypotheses for this study, given the analysis conducted in Chapter IV.

### *Conclusions*

This study was conducted around four primary research questions. They are presented below with the results of the analyses.

1. Do ninth-grade students who have participated in extracurricular activities have a significantly higher average freshman year GPA than nonparticipants?

Based upon the above discussion, the relevant literature and study findings, and the analyses conducted in Chapter IV, a growing body of evidence demonstrates that Hispanic and non-Hispanic White students who participate in athletics, clubs, or athletics in combination with clubs have significantly higher mean freshman year GPAs compared to nonparticipants. This study found 0.61, 0.22, and 0.51 differences in mean freshman year GPA for Hispanics who participated in athletics, clubs, and athletics in combination with clubs, respectively, when compared to nonparticipants. This study also found 0.73, 0.55, and 0.89 GPA differences for non-Hispanic Whites who participated in athletics, clubs, and athletics in combination with clubs, respectively, when compared to nonparticipants.

When the extracurricular activity variables (athletics, clubs, and athletics in combination with clubs) were combined into a participant variable, *t* test results indicated a significant difference between both Hispanic and non-Hispanic White students' mean GPAs. The null hypothesis is rejected for both Hispanic and non-Hispanic White participation versus nonparticipant mean GPAs. The results suggest that when Hispanic and non-Hispanic White students participation in athletics, clubs, or athletics in combination with clubs, may be related to higher mean GPAs.

Broh's (2002) Social Capital model may help explain these mean differences. Extracurricular activities may be just the opportunity Hispanic students need to intensify social ties between themselves and the school. Thus, the Social Capital model provides a theoretical link, or connection, between extracurricular participation and increased academic achievement. The Social Capital model appears effective in creating a connection to school, thus suggesting the academic benefits of participation in sports or clubs. The relations formed by the Hispanic students produced a social capital through developmental characteristics that connected the students to school.

This study's findings add to the literature by providing further evidence to support the first hypothesis, which asserts that extracurricular activities have a positive relation to mean freshman year GPA scores for both Hispanic and non-Hispanic White students.

2. Do Hispanic and non-Hispanic White students who participate in athletics, clubs, or athletics in combination with clubs achieve a 2.0 or greater GPA at different rates than nonparticipants.

In addition to investigating the mean freshman year GPA differences in terms of Hispanic and non-Hispanic White participation in athletics, clubs, athletics in combination with clubs, and nonparticipation, this section also researched the hypothesized relations between (a) ethnicity (Hispanic and non-Hispanic White) and extracurricular activity (athletics, clubs, athletic in combination with clubs, and nonparticipation), and (b) ethnicity (Hispanic and non-Hispanic White) and freshman year GPA ( $< 2.0$  and  $\geq 2.0$  cutscore).

The chi-square analyses for this hypothesis found three significant relations between (a) ethnicity (Hispanic and non-Hispanic White) and extracurricular activity (athletics, clubs, athletics in combination with clubs, and nonparticipation); (b) ethnicity and mean GPA based on a 2.0 cutscore; and (c) extracurricular activity and mean GPA based on a 2.0 cutscore.

First, the type of extracurricular activities appears to be associated with the ethnicity of the participant. In this regard, the proportion of Hispanic students participating in the four levels of extracurricular activities is different than the proportion of non-Hispanic White students; the ethnicity and extracurricular activity variables were found to be related. One possible explanation for this significant relation is Hispanic students are far less likely to participate in clubs than their non-Hispanic White peers. Extracurricular participation in athletics, clubs, or both by Hispanic and non-Hispanic White students is not due to chance.

Second, the findings of the chi-square analyses indicate a significant relation between ethnicity and GPA. Students' freshman year GPAs were found to be related to



their ethnicity (Hispanic or non-Hispanic White) and therefore not due to chance. This finding suggests that Hispanic and non-Hispanic White students' ethnic membership is related to achievement levels.

The third and fourth chi-square tests found that there is a significant relation between GPA based on a 2.0 cutscore and extracurricular activity for Hispanic and non-Hispanic White students. We reject the null hypothesis that the proportion of Hispanic students participating in extracurricular activities and achieving GPAs  $< 2.0$  is equal to the proportion of freshmen participating in extracurricular activities and achieving GPAs  $> 2.0$ .

This finding provides evidence that supports the great majority of the literature in terms of showing a relation between GPA and extracurricular activity. In this regard, the second hypothesis was illustrated; there is a relation between Hispanic and non-Hispanic White GPA and extracurricular activity.

3. Is the effect of extracurricular activity on GPA constant for both Hispanic and non-Hispanic White students?

After the chi-square results indicated a relation between Hispanic and non-Hispanic White freshman year GPA and extracurricular activities, a 2 x 4 (ethnicity x extracurricular) ANOVA was conducted to evaluate the relation of extracurricular activities and the freshman year GPAs of Hispanic and non-White Hispanic students. The two-way ANOVA suggested 8 significant differences in freshman year GPA for both Hispanic and non-Hispanic White students who participated in extracurricular activities

which suggest the relation of extracurricular activities is not constant for Hispanic and non-Hispanic White students.

Tukey post hoc tests for Hispanic students suggested four significant GPA differences, while Games-Howell post hoc tests for non-Hispanic White students indicated four significant differences with respect to freshman year GPA. Hispanic students who participated in athletic activities earned significantly higher freshman year GPA than did club participants, participants in athletics in combination with clubs, and nonparticipants. All significant GPA differences for both Hispanic and non-Hispanic White students included the nonparticipant variable, meaning participation in athletics, clubs, or athletic in combination with clubs attributed to statistically significant higher earned freshman year GPAs.

As discussed, the significant differences in extracurricular activities may suggest that activities connect Hispanic students to academics. Even though freshman year GPAs were higher among non-Hispanic White students, athletic activities had a medium effect for Hispanic students (0.55) when compared to their non-Hispanic White peers (0.68). This effect for Hispanic students was third in size only to the mean GPA differences between nonparticipants and non-Hispanic White freshmen who participated in athletics and the combination of athletics and clubs. Non-Hispanic White students who participated in athletics in combination with clubs earned GPAs that were 0.89 higher than nonparticipants', with an effect size of 0.83. Only the effect for Hispanic athletic versus club mean difference (0.37) was larger than their non-Hispanic White peer (0.18).

In this regard, the third hypothesis was demonstrated; the effect of extracurricular activities is not constant for Hispanic and non-Hispanic White students.

4. Is Hispanic participation in an athletic activity that does not have a minimum 2.0 GPA for participation positively related to GPA across trimesters?

It was found that over two trimesters of participation, there was a significant positive mean difference in Hispanic multicultural soccer players' GPAs. In this regard, participation was positively related to GPA over time for Hispanic students.

Because of the absence of a minimum 2.0 GPA requirement for athletic activities (a requirement that did affect the first three hypotheses), this fourth hypothesis is of particular interest. Multicultural soccer is classified as a club team and therefore has no minimum 2.0 GPA requirement to participate. During the first trimester, all players were nonparticipants. During the second trimester, it is likely that participants were adjusting to a new schedule and routine involving the athletic activity. The significant mean difference between second and third trimesters suggests that over time, participation in athletic activities, even those without the 2.0 requirement, had a positive relation to academic achievement.

Because there was no comparison group, there may be a threat to validity; however, the random sample was drawn from 3 years of multicultural soccer participation.

## *Discussion*

The purpose of this study was to examine the relation between GPA and participation in extracurricular athletics and clubs among Hispanic high school students. A review of the early literature on this issue showed a lack of consensus as to whether extracurricular activities help or harm academic performance, but a consensus that GPA and extracurricular activities are positively related is now emerging. The current study has shown significant relations do exist.

In addition to demonstrating significant relations between extracurricular activities and GPA, this study has addressed other possible associations with extracurricular participation, most notably a positive relation between Hispanic students' connection to school and increased GPA. Broh's (2002) Social Capital model suggests that membership in a social network –e.g., an extracurricular activity, may provide an opportunity for students to intensify social ties between themselves and their school. These social bonds may help to motivate students to do better academically. Extracurricular participation may be the unique opportunity for increased communication between peers, coaches, and an entire school. Ties outside the family may act as a mechanism by which students find trust and acceptance within the context of a larger culture. It is important to note however, that school connection may not always result in increased GPA; extracurricular activities are a form of school connection, but not school connection itself.

By focusing on extracurricular activity participation, this study examines Broh's (2002) Social Capital model's connection to school as an element of increased GPA. The

implications of this study are fairly limited; however, the relations between GPA and extracurricular activity participation are worth noting, particularly for students of ethnic minority groups who, historically, have been given less concern. Little emphasis has been given to the ethnicity and/or race of the students who are participating in school sponsored activities. Hispanics specifically are understudied. With limited literature on Hispanic students, it may be more difficult to fully understand a quantitative analysis without a more general understanding of this group.

The relations between extracurricular participation and GPA are not causal, which may cause concern. However, it is worth considering the proportion of students who participate in extracurricular activities. Of the 1,410 Hispanic freshmen in this study, 75% did not participate in any activity, neither athletics nor clubs. With the growing pressure on high schools to ensure the success of their burgeoning minority populations, this study may inform schools to examine the suggestion of increased academic achievement for minority student extracurricular participants.

This study's findings may inform high schools and encourage an examination of participation rates for minority students. By scrutinizing participation rates, for example, high schools may uncover which activities, either clubs or athletics, draw larger numbers of Hispanics, or which activities attract smaller numbers of minority participants. If certain activities are attracting Hispanics, the relations found in this study may inform schools to look more closely at why that is so.

Recommendations for a school district may include creating opportunities that are more consistent with the Hispanic lifestyle. Activities with rotating and various practice

schedules may help to draw in participants who otherwise cannot participate because of time constraints placed on them by work or family. Perhaps activities that attract a larger proportion of minority students could then encourage study groups or closer mentoring and/or scholastic exchanges with the activities' coaching staff. On the other hand, if activities are not attracting Hispanics, it may be advisable to create specific teams and/or club activities that target the school's Hispanic population, as did the multicultural soccer team from this study.

The culture at the students' middle school may also promote participation in extracurricular activities. Both middle and high schools should consider creating a culture of participation by involving parents. Parental involvement in their child's extracurricular choices may increase the likelihood of participation. Once active in extracurricular activities, students may then begin to recruit other students. The culture of participation at the middle school may begin with one student and quickly be accepted by a larger community of friends, the school community at large, and eventually become the accepted norm in high school. Open houses and transition programs at the high school may further amplify both the high school application and community appreciation of club and sport activities. In this regard, extracurricular participation may act as a tool for individual academic achievement, school community building, and even greater community involvement that begins in the middle schools.

As pressure on schools increases, schools must search for interventions that suggest statistically significant GPA differences between participants and nonparticipants. Extracurricular participation may be an intervention that has a relation to GPA for

Hispanic students. This study's findings may have an impact on students' desires to participate in activities, parents' encouragement of extracurricular activity participation, and possibly schools' funding of activities.

### *Study Limitations*

Given the nature of the current study, only conclusions regarding the association of extracurricular activity and academic performance (based on the findings for Hispanic students) can be made. This is a nonexperimental study, and there can be no inference of a cause-and-effect relation. The only conclusions that can be drawn are limited to relation strength and mean, freshman year GPAs between variables of interest.

The school district data used in this study came from an archival source and the study was not controlled. The data were compiled from five different schools. As has already been documented, a few students had a score of zero for GPA, which is not a valid score. It has been concluded that these scores were either marked in error, or incomplete records were kept. In either case, it demonstrates that the data source contained errors, and therefore, it is not known what other errors are present in the data. This data source was a limitation to the study and, as a result, becomes a recommendation to a school district. Practical significance of variables of interest can be analyzed only with a data source that is complete, well maintained, and develops with the availability of new sources of data.

A limitation to this study is that some effect was certainly lost with the dependent variable GPA and independent variable of extracurricular participation. GPA was

calculated as a student's cumulative average over three trimesters for the first three research questions. Ideally, student GPA data could have been analyzed trimester by trimester. The effect of the cumulative GPA is likely considerably greater than what was reported in this study, considering this limitation on mean; however, cumulative GPA data were the only data available for the current study. Similarly, by adding activities not studied in the current study, community involvement may increase the mean differences and effect sizes of participants versus nonparticipants.

Another limitation to the present study is the inability to know if the participants were all equal on factors outside of the study's variables. For instance, a limitation may be that all participants do not have similar family upbringings or come from similar social classes. Also, a limitation may be that these participants are all residents, temporary or permanent, of a school district in suburban Oregon, which may vary considerably from Hispanic students in other parts of the United States. If they do not, those differences could possibly be used to explain any found differences between the participants. These differences could have an impact on the internal validity of the study.

The inclusion of additional control variables may potentially wash-out the observed effects. For example, including gender, socio-economic status, family demographics, or mobility information may all result in differing GPA means and the association based on them. Similarly, extracurricular activities are only one category of engagement. Engagement in school may be facilitated through other means at the high school, not only through involvement in extracurricular activity. This does not mean, however, that the data used and the results obtained in this study are of no importance. To



the contrary, results from this study can be used to support findings from previous studies and add to the growing body of literature on the topic of extracurricular activity participation in schools.

It was found that students who engage in extracurricular activities have higher GPA scores than students who do not; one may conclude that the reason they have higher GPA scores is because they participate in extracurricular activities. Another possible explanation for this could be that students who naturally have higher GPA scores are also the students who are more likely to participate in extracurricular activities. Another possible explanation could be that students who participate in extracurricular activities have higher GPA scores naturally, and would have higher GPA scores even if they did not participate in extracurricular activities.

Further, students who have higher GPA scores and participate in extracurricular activities may come from a wealthier family upbringing, which may allow for any number of differences between those students and the ones who do not participate in extracurricular activities. Some of these differences could be the ability to afford tutoring sessions, which would help such students achieve higher GPA scores than students without access to tutoring.

#### *Guide for Further Research*

As a result of this study, schools should consider the relations of extracurricular activity participation and GPA for Hispanic students. Administrators should consider continuing research to determine the academic, social, and financial constraints on

extracurricular activities. In particular, administrators should consider research that explores the following hypotheses regarding the relation of GPA to extracurricular activities among Hispanic students:

1. Extracurricular activities may promote community participation and pride.
2. Extracurricular activities decrease the drop-out rate.
3. Extracurricular activities are related to students' pursuit of higher education.
4. Extracurricular activities promote leadership skills and positive social behaviors.
5. Extracurricular activities provide students with social and emotional stability along with the academic benefits.
6. Extracurricular activities are related to parents' attitudes about school.
7. Intramural activities are related to academic achievement.
8. Extracurricular activities are related to self-esteem, which in turn is related to academic achievement.

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