Does Participation in Extracurricular Activities Impact Student Achievement?

By Kristen J. Abruzzo, Cristina Lenis, Yansi V. Romero, Kevin J. Maser, Ed.D., Elsa-Sofia Morote, Ed.D.

Abstract

This study was conducted in two high schools located in suburban, Long Island, New York, with a predominantly white population. The respondents in this study consisted of 234, 11th grade students. The data was analyzed using the structural equation model. Findings show that there is a positive correlation between percent of participation in organizations and academic self-concept. There is a positive correlation between self-concept and academic self-concept, as well as a correlation between self-concept and percent of participation in sports. An inverse correlation was found between the percent of participation in an organization and self-concept.

Purpose of the Study

Growing evidence demonstrates the overall value of participation in organized activities for positive youth development, including fewer behavior problems, improved academic self-concept, and increased educational achievement (Feldman & Matjasko, 2005). To date, there haven't been many studies to determine if various extracurricular activities in combination have a greater impact than one particular type alone. Though there has been a great deal of research surrounding extracurricular athletic activities, there hasn't been much research comparing various types of extracurricular activities to determine if certain extracurricular activities have a greater affect on a student's overall grade point average or academic self-concept. The review of the relevant literature indicated relationships among participation in extracurricular activities and academic achievement. Adolescent students' involvement in extracurricular activities, both athletic-based and academic-based, has shown to increase student achievement and increase academic self-concept. Researchers have essentially showed agreement throughout the review of the literature.

The study is important because much of today's research tend to support the academic and psychological development benefits of extracurricular involvement. Many think that participating in a variety of different organized activities will bring higher grades motivation and a positive self-concept. What we fail to realize is that for some youth, over scheduling them with extracurricular activities can bring about negative consequences academically and psychologically.

The study also examined the effect of four variables (Academic Self-Concept, Self-Concept, Percent of Participation in Sports and Percent of Participation in an organization) on students' academic achievement. Academic achievement is measure by scores in ELA, Math, and overall GPA. The study was conducted in two suburban, Long Island, New York high schools with a predominantly white population. Many schools encourage Middle School and High School students to join sports. This study will help schools determine which type of extracurricular makes the biggest positive impact on academic achievement. The following research questions guide this study.

1. What is the relationship among the four variables (self-concept, academic self-concept, the level of student participation in after-school sports and organizations) and the final Grade Point Average (GPA), English Language Arts (ELA) and Math scores for eleventh graders?

2. What is the impact, if any, of the four variables (self-concept, academic self-concept, the level of student participation in after-school sports and organizations) on the Final Grade Point Average (GPA), English Language Arts (ELA) and Math scores for eleventh graders?

Theoretical Framework

Participation in school-based extracurricular activities like sports, the arts, and academic clubs, provides opportunities for student growth both educationally and developmentally (Mahoney et al., 2006). There have been many studies that show a positive relationship between participating in after school sports or an organizational activity and a student's final Grade Point Average (GPA). Mahoney et al., (2005) stated activity participation by adolescents has been found to be linked with higher educational attainment, and achievement reduced problem behaviors and heightened

psychosocial competencies (Mahoney et al., 2005). Astin (1984) and Tinto (1975) stated involvement helps students connect with their institution and develop an attachment that encourages exploration, and it facilitates social interaction by increasing peer friendships and time with faculty and staff (Astin, 1984; Tinto, 1975). For this study, the review of the research literature is divided into the following topical headings: academic self-concept, academic achievement, and extracurricular activities.

Academic Achievement

Many researchers have hypothesized that there is a significant correlation between academic achievement and the level of extracurricular participation, marked by increases in students' academic achievement (Feldman & Matjasko, 2005). Early research reported mixed results as to the association between participation in extracurricular activity and academic achievement in the form of grade point average (Holland & Andre, 1987). Extracurricular activities are believed to influence academic self-concept (Jacobs, Vernon, & Eccles, 2004). Stakeholders are concerned about educational performance within the public school setting. Many school reforms have been based off of these concerns stemming from students' academic achievement.

Academic Self-Concept

Conventional wisdom suggests that academic performance should be related to general self-esteem. According to Goodman and Young (2006), the higher the student's academic performance, the higher their self-esteem should be and vice versa. According to Holland and Andre (1987), all students start school being identified with academics, meaning their academic performance in a relation to how they feel about themselves. Self-esteem, however, is only one of several predictors of academic performance (Steele, 1992). Being that many prior studies have shown that academic self-concept is significantly related to academic performance, further studies have been conducted to isolate the effect of academic self-concept between various ethnicities, and between genders.

Extracurricular Activities

In Mahoney et al. (2006), the recent national survey showed that more than 80% of children and youth participated in extracurricular contexts (Mahoney et al., 2006). Eccles and Gootman (2002) and Holland and Andres (1987), also stated there is an increasing awareness that participation in organized activity contexts offers valuable opportunities for growth and positive youth development (Eccles & Gootman, 2002; Holland & Andres, 1987). Participating in extracurricular activities becomes increasingly important during adolescence, as youth explore their emerging interests and identities, make friends with others, and strive to fit in with their peers. Participation in school-based extracurricular activities, like sports, the arts, and academic clubs, is a normative and important part of the school experience for many youths (Fredricks, 2012). In Fredricks and Eccles (2006), "adolescents participating in a greater number of activities in 11th grade obtained a higher grade point average and had greater expectations about their educational attainment during and after high school" (Fredricks & Eccles, 2006, p. 12). Prior research tends to support the development benefits of extracurricular involvement, and school completion rates (Fredricks, 2012)

Athletic Extracurricular Activities

Equally important, Shulruf (2010) stated that extracurricular activities are an integral component of school life. Marsh & Kleitman (2003) and McCarthy (2000), the study found that participation in athletics is linked to improved school attendance, academic outcomes, social relationships and self-esteem (Marsh & Kleitman, 2003; McCarthy, 2000; Shulruf, 2010).

Academic Extracurricular Activities

McCarthy (2000) found that there is a significant correlation between academic extracurricular activities and academic performance. McCarthy's study proved that students who participate in academic extracurricular activities are stronger performers academically, and typically report higher GPA's than noninvolved peers or students who participated in other types of out-of-district extracurricular activities (McCarthy, 2000).

Definition of Terms

Self-concept is a "self-procured idea of something formed by mentally combining all aspect of the student's being. This may include and be expressed as psychological well-being, mood, and general confidence" (Hamachek, 1995 as cited in Maser, 2007, page 11).

Table 1.1

Grade Ranges and the Corresponding Number Values Used to Calculate the Final English Grade Rank, Final Math Grade Rank, and Final Grade Point Average (GPA) Rank

Grade Range	Corresponding Number Value
Below 50%	1
50% - 55%	2
56% - 60%	3
61% - 65%	4
66% - 70%	5
71% - 75%	6
76% - 80%	7
81% - 85%	8
86% - 90%	9
91% - 95%	10
96% - 100%	11
Higher than 100%	12

"Academic self-concept is the perception that students have about themselves regarding their academic performance, abilities, and achievement" (Marsh & O'Neill, 1984 as cited in Maser, 2007, page 11).

"Extracurricular activity is any structured, school-sponsored activity that falls outside of the normal school day. The activities are limited to non-credit sports teams and organizations" (Conners-Harris, 1999 as cited in Maser, 2007).

The level of participation in "extracurricular activities for the 2005-2006 school years will identify the level of students' participation. The minimum numbers of hours required by faculty to supervise students in their particular activity, as identified in the School District's Collective Bargaining Agreement, will be used to identify the students' level of participation in extracurricular activities (Maser, 2007, page 10).

Method

The participants in this study were 11th grade students in two suburban high schools on Long Island, New York. Eleventh-grade students were selected because they had attained the highest-grade level before they had an opportunity to drop out. The survey instrument was developed by Maser (2007) administered to 11th grade students during their social studies classes to learn more about the survey. IRB was approved and consent forms were used.

The total combined 11th grade population of both schools was essentially even and consisted of 1,284 students that were predominantly white population of 88.5 percent. The minority population of 11.5 percent demographic composition was comprised of 4.0 percent Asian, 0.9 percent Black, 6.2 percent Hispanic, and 0.4 American Indian, Alaskan or Pacific Islander. Eligibility for free or reduced lunch comprised 8.2 percent of the student population.

Three parts were used in the survey instrument for this study (Maser, 2007, p.51). The first part consisted of five questions that were demographic for the first two, and self-reported final English grade, final math grade, and final grade point average (GPA) for the third, fourth and fifth. Grade ranges were given to the respondents to choose for the final English grade, final math grade, and final grade point average (GPA). The grade ranges and the corresponding number values used to calculate the final English grade rank, final math grade rank, and final grade point average (GPA) rank are represented in **Table 1.1.**

The last part of the survey instrument Maser (2007, p. 52) asked if the respondent participated in extracurricular activities. If the respondent answered no, the respondent was finished and the question was recorded as no participation. If the respondents answered yes, he/she then had to indicate in which extracurricular activity or activities he/she had participated. Students were given a choice of 16 sports and 39 organizations from which to choose. The determination for identifying the extracurricular activities used on the survey instrument was made based on a list of activities given to the researcher by the superintendent of schools.

Figure 1.1 ***Dependent Variable: English GPA***

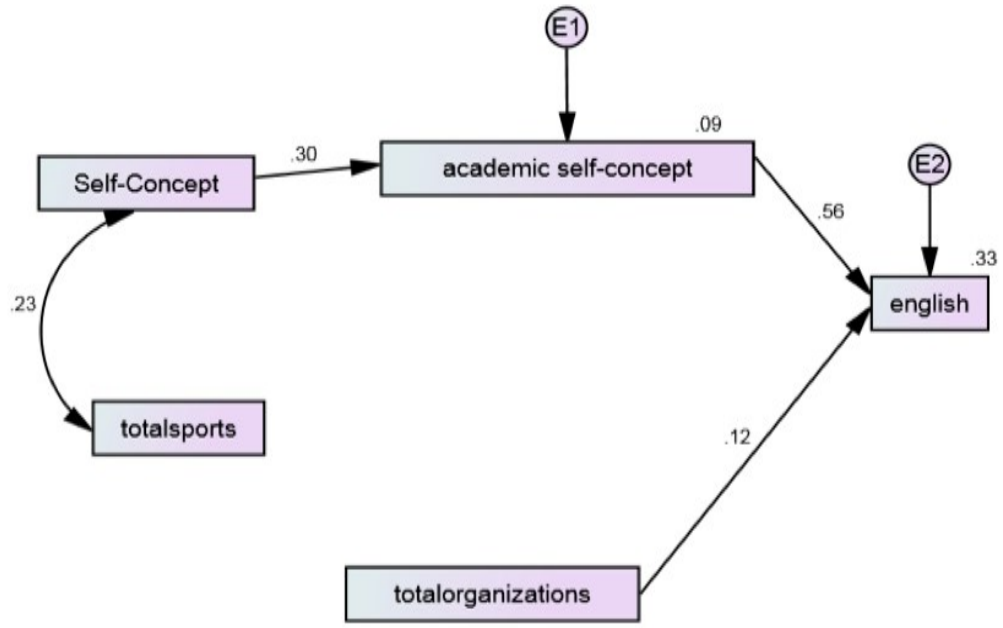
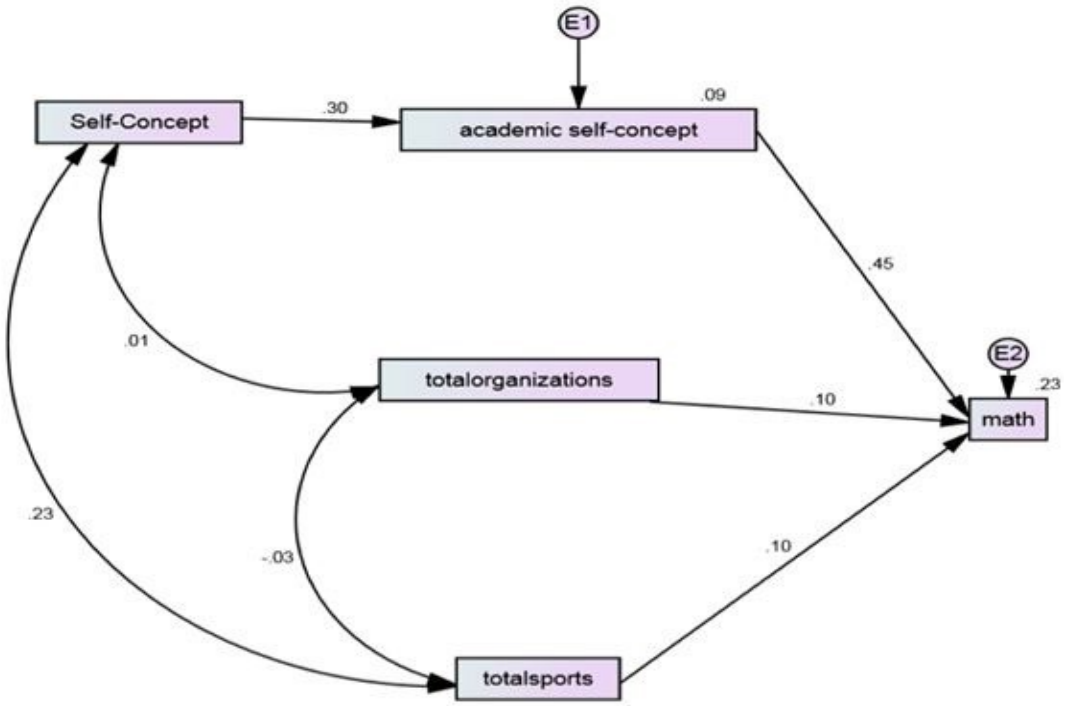


Figure 1.2 Dependent Variable: Math



Results

A path analysis was used to answer the two research questions, in each of the three dependent variables: English Scores and Math Scores and Final Grade Point Average (GPA).

Figure 1.1 shows that there is a weak correlation between percent of participation in the organization and academic self-concept. In contrast, percent of participation on organization inversely correlates with participation in sports. That means that the more a student participates in a sport the less he/she will participate in an organization. There is a negative correlation between the percent of participation in an organization and self-concept. There is a correlation between self-concept and academic self-concept. There is a correlation between self-concept and percent of participation in sports.

Figure 1.1 displays the following influences utilizing the standardized beta weights: value .56 is the effect of academic self-concept on the students' English GPA and value .12 is the effect of students' participation in the organization on the students' English GPA. The level of student participation in sports activities had no direct effect on the students' English GPA's. The entries .56 and .12 are standardized beta regression weights. This prediction has an r2=.33 that indicates 33 percent variance of the students' English GPA ranks is explained by the students' academic self-concept, participating in organizations and participating in sport activities. This indicates that 33 percent of the effects can be predicted.

Figure 1.2 shows that there is a strong correlation between percent of participation in an organization and self-concept. There is a correlation between self-concept and academic self-concept. That means that a students' positive self-concept about themselves will show in their academics. There is a weak correlation between self-concept and the percent of participation in an organization. There is a weak correlation between the percent of participation in sports and the participation in an organization. That means that the more a student participates in a sport the less he/she will participate in an organization and vice versa.

Figure 1.2 displays the following influences utilizing the standardized beta weights: value .45 is the effect of academic self-concept on the student's math scores, value .10 is the effect of students' participation in organizations on the students' math scores and value .10 is the effect of students' participation in sports on the student's math scores. The level of student participation in sports activities had a weak correlation with the student participation in the organization. The level of the organization had a weak correlation with self-concept. The entries .45, .10 and .10 are standardized beta regression weights. This prediction has an r2= .23 which indicates 23 percent variance of the students' math scores ranks is explained by the students' academic

self-concept, participating in organizations and participating in sport activities. This indicates that 23 percent of the effects can be predicted.

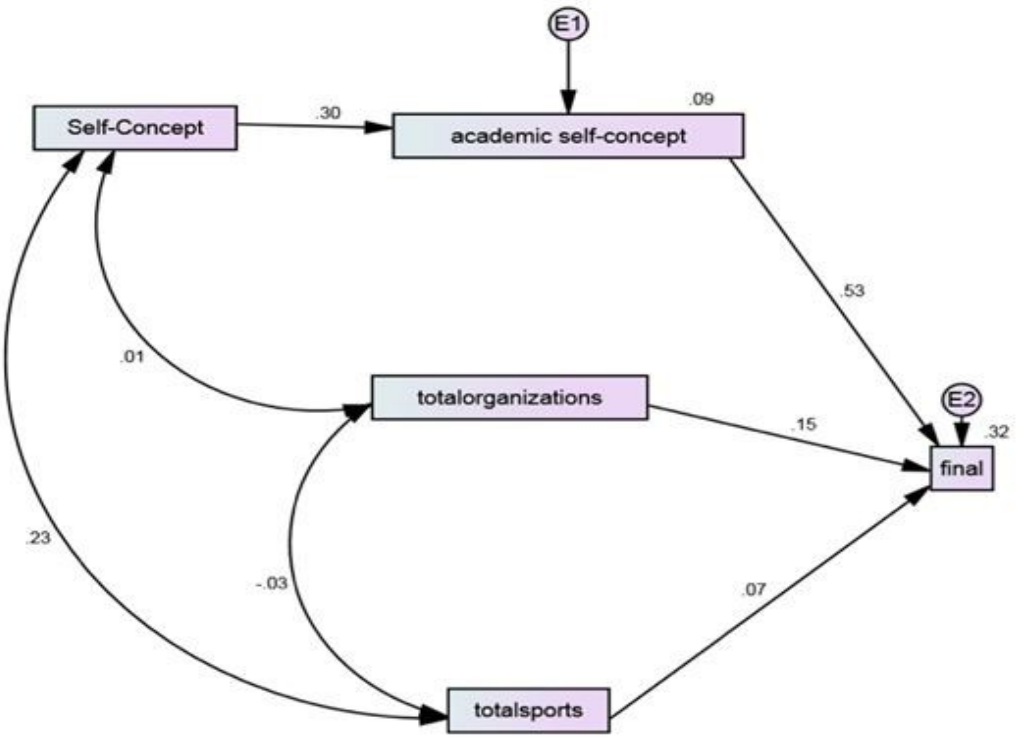
Figure 1.3 shows that there is a strong correlation between percent of participation in an organization and self-concept. There is a strong correlation between self-concept and academic self-concept. That means that a student's positive self-concept about themselves will show in their academics. There is a weak correlation between self-concept and the percent of participation in an organization. There is a weak correlation between the percent of participation in sports and the participation in an organization. That means that the more a student participates in a sport the less he/she will participate in an organization and vice versa. There is a weak correlation between a students' self-concept and the percent of participation in an organization.

Figure 1.3 displays the following influence utilizing the standardized beta weights: value .53 is the effect of academic self-concept on the students' final Grade Point Average (GPA), value .15 is the effect of students' participation in organizations on the students' final Grade Point Average (GPA) and value .07 is the effect of students' participation in sports on the student's final Grade Point Average (GPA). The entries .53, .15 and .07 are standardized beta regression weights. This prediction has an r2= .32 which indicates 32 percent variance of the students' final Grade Point Average (GPA) ranks is explained by the students' academic self-concept, participating in organizations and participating in sport activities. This indicates that 32 percent of the effects can be predicted.

Conclusion

The purpose of this study was to investigate the relationship between 11th grade students participating in after school sports, and organizations or both, on students' final Grade Point Average (GPA), English Language Arts (ELA) scores and Math scores. Participation in school-based extracurricular activities, like sports, the arts, and academic clubs, is a normative and important part of the school experience for many youths (Fredricks, 2012). Findings show that there is a correlation between percent of participation in the organization and academic self-concept, which supports prior research supporting the developmental benefits of extracurricular involvement; participating in a range of organized contexts is related to higher grade, motivation, and school completion rates (Fredricks, 2012). Additionally, an inverse correlation was found between the percent of participation in an organization and self-concept.

Figure 1.3 Dependent Variable: Final Grade Point Average (GPA)



This study indicated that there is a correlation between self-concept and academic self-concept as well as a correlation between self-concept and percent participation in sports. This study further examined how participating in after school sports or in an after-school organization impacts self-concept and academic concept and determined the effect they had on students' math scores, ELA scores, and overall GPA.

Recommendations

We recommend the after-school organizations would be separated into categories: Athletic, academic, interest-based, and service-based. The study would have a larger sample size, for example, to include or contrast suburban minority schools vs. suburban white schools. The survey could include questions regarding reasons students would not participate in after-school activities.

References

Astin, A. W. (1984). Student involvement: A developmental theory for higher education. *Journal for College Student Personnel*, 25, 297-309.

Conners-Harris, A. (1999). A Study of the participation of marginally academic students in Extracurricular activities and the relation to school persistence. *Dissertation Abstracts International*, 60(4A), 0950.

Eccles, J. S., & Gootman, J. A. (Eds). (2002). *Community programs to promote youth development.* Washington, D.C: National Academy Press.

Feldman, A. F., & Matjasko, J. L. (2005). The role of school-based extracurricular activities in adolescent development: A comprehensive review and future directions. *Review of Educational Research*, 75(2), 159-210.

Fredricks, J. A. (2012). Extracurricular participation and academic outcomes: Testing the over-scheduling hypothesis. *Youth Adolescence*, 41-295-206.

Fredricks, J. A., & Eccles, J. S. (2006). Is extracurricular participation associated with beneficial outcomes? Concurrent and longitudinal relations. *Developmental Psychology*, 42(4), 698-713.

Goodman, G. S., & Young, I. P. (2006). The value of extracurricular support in increased student achievement: An assessment of a pupil personnel model including school counselors and school psychologists concerning student achievement as measured by an academic performance index. *Educational Research Quarterly*, 30(1), 3-13.

Hamachek, D. (1995), Self-Concept and School Achievement: Interaction Dynamics and a Tool for Assessing the Self-Concept Component. Journal of Counseling & Development, 73: 419-425. doi:10.1002/j.1556-6676.1995.tb01775.

Holland, A., & Andre, T. (1987). Participation in extracurricular activities in secondary school: What is known, what needs to be known? *Review of Educational Research*, 57, 437-466.

Jacobs, J. E., Vernon, M. K., & Eccles, J. S. (2004). Relations between social self-perceptions, time use, and prosocial or problem behaviors during adolescence. *Journal of Adolescent Research,* 19(1), 45-62.

Mahoney, J. L., Lord, H., & Carryl, E. (2005). An ecological analysis of after-school program participation and the development of academic performance and motivational attributes for disadvantaged children. *Child Development*, 76(4), 811-825.

Mahoney, J. L., Harris, A. L, & Eccles, J. S. (2006). Organized activity participation positive youth development, and the overscheduling hypothesis. *Society for Research in Child Development: Social Policy Report,* 20, 1-30.

Marsh, H. W., & Kleitman. S. (2003). School athletic participation: Mostly gain with little pain. *Journal of Sport & Exercise Psychology*, 25(2), 205-228.

Marsh, H. A., & O'Neill, R. (1984). Self Description Questionnaire iii: The Construct Validity of Multidimensional Self-Concept Ratings by Late Adolescents. Journal of Educational Measurement, 21: 153-174. doi: 10.1111/j.1745-3984.1984.tb00227.

Maser, K. J. (2007). The level of student participation in extracurricular activities, adolescent development, and academic achievement. Dowling College.

McCarthy, K.J. (2000). The effects of students' activity participation, gender, ethnicity, and socioeconomic level on high school student grade point averages and attendance. Boulder: University of Colorado.

Shulruf, B. (2010). Do extra-curricular activities in schools improve educational outcomes? A critical review and meta-analysis of the literature. *Internal Review of Education 56*, 591-612.

Steel, C.M., (1992). Race and the schooling of black Americans, *The Atlantic Monthly*.

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45, 89-125.

Kristen J. Abruzzo is a Certified Administrator for Secondary Science and Technology on Long Island, and a Dowling Doctoral student.

Cristina Lenis is an Educational Director in Early Childhood at District 25, and a Dowling Doctoral Student.

Yansi V. Romero is a third grade elementary school teacher at Westbury School District, and a Dowling Doctoral Student.

Kevin J. Maser, Ed.D., is Chairperson of Science at H. Frank Carey High School in Franklin Square, Long Island, NY, and Adjunct Professor of Mathematics at Dowling College, Oakdale, NY.

Elsa-Sofia Morote, Ed.D., is a Professor in the Department of Educational Administration Leadership and Technology at Dowling College, Oakdale, NY.