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THE IMPACT OF EXTRACURRICULAR ACTIVITIES ON ACADEMIC PERFORMANCE
FOR RURAL SECONDARY STUDENTS IN INDIANA

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ABSTRACT

The purpose of this study was two-fold in nature. First, this study sought to identify whether extracurricular participation for students in a rural, Grades 7-12 building created significant differences when examining academic performance, attendance, gender, lunch status, and student discipline compared to their non-participant peers. Secondly, this study examined the impact extracurricular participation, attendance, gender, lunch status, and discipline has on academic performance for rural students. These three factors were then compared to determine the overall rank-order of impact on academic performance.

Based on this study, there was a significant difference between extracurricular participants and non-participants in language arts standardized testing performance. There was a significant difference between extracurricular participants and non-participants in mathematics standardized testing performance. There was a significant difference between extracurricular participants and non-participants on the number of days not in attendance. There was a significant difference between extracurricular participants and non-participants on the number of student discipline contacts. Extracurricular participation, attendance rate, and number of discipline contacts were significant predictors for language arts standardized assessment scores. Gender and lunch status were not significant predictors of language arts standardized testing performance. Extracurricular participation, attendance rate, and number of discipline contacts were significant predictors for mathematics standardized assessment scores. Gender and lunch status were not significant predictors of mathematics standardized testing performance.

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CHAPTER 1

INTRODUCTION

The Problem

According to Shulruf, Tumen, and Tolley (2007), there is a large body of the literature that suggests that extracurricular activities in schools have positive effects on student achievement. However, the majority of the research does not demonstrate causal effects. This study presents a methodical approach to determine whether student participation in extracurricular activities might have causal effects on academic achievement, attendance, and discipline at school.

Extracurricular activities have a positive and profound effect on academic achievement for adolescent and upper secondary students. Research that supports this, including Eccles and Gootman's (2002) study, dates back more than two generations. Several studies in the 1970s recorded a correlation between middle school extracurricular activities and educational attainment. More recently, studies in both after-school activities and adolescent development support positive outcomes from participating in various organized activities associated with extracurricular activities (Larson, 2000).

In one example, Mahoney, Cairns, and Farwer (2003) documented the link between extended participation and extracurricular activities during high school and reduced rates of school dropout and offending, especially in early high school. Elder and Conger (2000)

connected participation in extracurricular activities to increases in self-concept, grade-point average, and school engagement. Marsh and Kleitman (2003) documented the link to sports participation and lower dropout rates and higher post-secondary education.

Stephens and Schaben (2002) stated that music, drama, sports, and academic clubs all have a positive influence on student academic achievement. Ways in which our kids select their leisure activities influence their academic achievement. The daily grind of sitting in rows and listening to the teacher, whether it is effective or ineffective, is not the only influencing academic achievement. Research by the U.S. Department of Education (2002) revealed the students across the country who choose to participate in extracurricular activities are 75% more likely to have a grade point average of one whole percentage point higher than students who chose not to participate in extracurricular activities.

In addition to extracurricular activities, Simon's (1996) research showed that regardless of student background and prior achievement, home-learning activities positively influenced grades. Mahoney et al. (2003) added that different activities in which students participate in and out of school have been associated with an improved educational level and better attention level, and along with Bauer and Liang (2003), an increased critical thinking and personal and social maturity.

Rombokas (1995) researched components that play a role as to why extracurricular activities are beneficial to students academically. One of these components is that students learn mega-skills or character-building lessons that can be embraced and applied to study habits in everyday lives. Activities, such as music, drama, athletics, and other opportunities, teach young people to discipline themselves. Rombokas further pointed out that young people have the responsibility to the activity or organization and must perform the task or tasks assigned to them

whether it is to jump, sing, act, or publicly speak. When students participate in extracurricular activities, they gain a sense of self-respect, self-esteem, and self-worth. Extracurricular activities instill a sense of pride as a result of student accomplishments or completion, plus learning that if an activity is worth doing, it is worth doing well. Rombokas's (1995) research was validated through her research that concluded 74.6% of the nearly 300 surveyed students, in three different districts, cited their participation in a team sport was a key factor in the building of their own character.

Matt Craft, former president of the Iowa State University Government of the Student Body, spoke of how extracurricular activities provide young people with the opportunity to learn life skills that benefit academic performance (as cited in Hollrah, 1999). All extracurricular activities consume a fair amount of time out of students' schedules. This requires students to plan their time wisely and adjust their schedules to be efficient and complete their responsibilities. In addition to time management and organizational skills, Craft went on to discuss how extracurricular activities in the arts teach students analytical skills and creative problem-solving skills (as cited in Hollrah, 1999). Rombokas (1995) claimed that this is due to thinking creatively to successfully perform music, act in a play, or produce a work of art.

Mahoney and Cairns's (1997) research indicated that engagement in school extracurricular activities is linked to decreasing rates of early school dropouts in both boys and girls. They discovered that such participation provides average or below students the opportunity to create a positive and voluntary connection to their school. Conversely, other strategies typically used to address the needs of at-risk students, such as school-dropout prevention programs and remedial education focus on the deficits of students and serve as a catalyst in the formation of deviant groups. Mahoney and Cairns concluded that this research

shows that involvement in extracurricular activities supports the at-risk student by maintaining, enhancing, and strengthening the student–school connection.

Purpose of the Study

The purpose of this study was two-fold in nature. First, this study sought to identify whether extracurricular participation for students in a rural, Grades 7-12 building created significant differences when examining academic performance, attendance, gender, lunch status, and student discipline compared to their non-participant peers. Secondly, this study examined the impact extracurricular participation, attendance gender, lunch status, and discipline has on academic performance for rural students. These three factors were then compared to determine the overall rank-order of impact on academic performance.

Research Questions

1. Is there a significant difference between extracurricular participants and non-participants in language arts standardized testing performance?
2. Is there a significant difference between extracurricular participants and non-participants in mathematics standardized testing performance?
3. Is there a significant difference between extracurricular participants and non-participants on the number of days not in attendance?
4. Is there a significant difference between extracurricular participants and non-participants on the number of student discipline contacts?
5. Is extracurricular participation, attendance rate, gender, free and reduced lunch status, and/or the number of discipline contacts a predictor of language arts standardized testing performance?

6. Is extracurricular participation, attendance rate, gender, free and reduced lunch status, and/or the number of discipline contacts a predictor of mathematics standardized testing performance?

Null Hypotheses

The following null hypotheses were generated from the research questions:

1. There is no significant difference between extracurricular participants and non-participants on language arts standardized testing performance.
2. There is no significant difference between extracurricular participants and non-participants on mathematics standardized testing performance.
3. There is no significant difference between extracurricular participants and non-participants on the number of days not in attendance.
4. There is no significant difference between extracurricular participants and non-participants on the number of student discipline contacts.
5. Extracurricular participation, attendance rate, gender, free and reduced lunch status, and the number of discipline contacts cannot predict language arts standardized testing performance.
6. Extracurricular participation, attendance rate, gender, free and reduced lunch status, and the number of discipline contacts cannot predict mathematics standardized testing performance.

Definition of Terms

Academic performance is the average of the student's z-scores for grade point average, reading assessment score, and math assessment score.

End of course assessment (ECA) is the test administered to students in the 10th grade after the completion of Algebra 1 and English 10.

Extracurricular activity is a school activity that is separate from the daily academic curriculum.

Extracurricular participant is a student who chooses to participate in a school activity that is separate from the daily academic curriculum.

Grade point average is a calculation of the average of all of a student's grades for all semesters and courses completed up to a given academic semester based on a 4.0 scale.

ISTEP is the test administered to the seventh and eighth grade students in Indiana in the areas of language arts and mathematics.

Math assessment score is the raw score a student receives on their ISTEP or ECA.

Non-participant is a student who chooses not to participate in a school activity that is separate from the daily academic curriculum.

Reading assessment score is the raw score a student receives on their ISTEP or ECA.

Rural school building is any public, non-charter school in the state of Indiana that serves Grades 7-12 with an enrollment under 750 students.

Socio-economic status (SES) is determined by whether or not students receive free and reduced lunch.

Student attendance is when a student is counted present in school; for this study it is represented by the number of days that a given student has missed school.

Student discipline is represented by the number of times that a student has a documented visit to the office.

Z-score is the number of standard deviations away from the mean.

Significance of Study

This study contributes to the field of education by examining the impact that extracurricular activities have on academic performance, student attendance, and discipline. By doing this, quantitative data either demonstrate support or lack thereof for whether extracurricular activities increase student performance in the classroom. With tough financial times, it is essential that these small districts allocate their scarce funds efficiently in pursuit of offering the best student achievement results to the community. This study also provided statistical evidence regarding the impact of attendance and discipline on these rural school children's education. In this age of accountability, one can no longer afford to spend dollars on programs without evidence of student gains in the classroom.

Limitations

The investigation was limited by the validity of the grades students received in their classes, thus impacting the grade point average given by each school. Different schools have different levels of expectations and grading policies. Grading variance was minimized by averaging grade point average with test score performance. Another limitation within this study was the validity of the raw scores on the standardized tests. Any test has a degree of measurement error, but the standardized testing conducted by the state provided the best data available with regards to overall mastery of student content. Finally, the third limitation dealt with the extracurricular participation being viewed as evidence of student involvement. With dwindling budgets in these small districts, the number of extracurricular activity opportunities available at each school in the study could be vastly different. Also whether schools are able to match student interests with the extracurricular opportunities could be another possible reason for a student not participating.

Delimitations

This study gleaned data only from schools who served students in Grades 7-12 with student populations of less than 750. This decision was made in order to gauge the impact of the study on rural students. Another delimitation put on the study was the decision to only examine school data from one year (2010-2011). Due to asking districts to supply data and having their own personnel mine their school information systems, it was important that the request be reasonable. Also, data came from students in Grades 8 and 10 because those are the grades tested by the state of Indiana. Due to the fact that data were only collected from rural Indiana schools, this study did not take into account the ethnicity of the students, due to the lack of minority students found in these types of districts. Finally, the extracurricular activities were broken down into different categories once again for ease of data mining by district personnel. Due to seventh graders transitioning to a new building with new surroundings, they were not included in this study. Due to 12th graders being “varsity only” in athletic extracurricular activities, they were not included in this study.

Summary and Organization of the Study

This study is divided into five chapters. Chapter 1 states the problem, the statement of the problem, the purpose of the study, the research questions, null hypothesis, definition of terms, significance of study, and limitations. Chapter 2 is a review of related research and is subdivided into history and current state of extracurricular activities, relationships between extracurricular participation and academic achievement, relationships between extracurricular participation and student attendance, relationships between student attendance and academic achievement, relationships between extracurricular participation and student discipline, relationships between student attendance and academic achievement, relationships between student discipline and

academic achievement, and relationships between extracurricular participation and at-risk students. Chapter 3 presents information about the methodology including purpose of the study, research questions, null hypotheses, sample description, data sources and collection, and method of analysis. Chapter 4 presents findings through quantitative analysis of hypotheses 1, 2, and 3. Chapter 5 is the summary of findings, conclusions, and recommendations.

CHAPTER 2

LITERATURE REVIEW

History and Current State of Extracurricular Activities

Casinger (2010) stated vision and purpose are essential in extracurricular activities for the overall development of our students. He emphasized how important vision and purpose is to sustaining valuable extracurricular programs. His research tells how early school officials saw the value in school activities that occurred outside of the time that the basic core subjects were taught. The history of extracurricular activities began in the United States in the 19th century. First, as Casinger described, they were an additional part to the normal academic year schedule. It complemented the curriculum as much as subverted it. The students found in it a kind of laboratory for practical and vocational interests. Literary societies were the first associations that became popular at Harvard University and Yale University. Then various debate clubs appeared and different fraternities and sororities were organized.

Casinger (2010) told how students initiated the emergence of the first athletic clubs in American colleges and stimulated the elaboration of the first athletic programs at university campuses. At that time, literary societies were on the decline by the turn of the 20th century, and some educators felt that less desirable extracurricular activities were now distracting students from their curricular responsibilities. Intercollegiate athletics soon became the dominant element of extracurricular activities in most American colleges and high schools.

However, Casinger (2010) pointed out that there remained one more important part of student life in the United States during the 19th and early 20th century—the school newspaper. It began following the Civil War and has carried through to today in high school and college community activities in order to develop well-rounded citizens.

Millard (1930) noted the early development of extracurricular activities was slow, with many seeing it simply as a fad that would pass and quickly fade out of style. One of the early philosophies behind extracurricular activities was that they should, wherever at all possible, “grow out of curricular activities and return to curricular activities to enrich them” (Millard, 1930, p. 12). Eventually people, including educators, began to see the benefits of extracurricular activities, but it took time embrace them. In fact, Marsh and Kleitman (2002) stated that before 1900, educators were skeptical of participation in extracurricular activities, believing that “school should focus solely on narrowly defined academic outcomes. Non-academic activities were viewed as being primarily recreational and therefore were detrimental to academic achievement, and consequently were discouraged” (p. 1).

Deam and Bear (2006) stated, “Extracurricular activities supplement and extend those contacts and experiences found in the more formal part of the program of the school day” (p. 2). It was not until recently, as Marsh and Kleitman (2002) pointed out, that “educational practitioners and researchers have taken a more positive perspective, arguing that extracurricular activities may have positive effects on life skills and may also benefit academic accomplishments” (p. 5). Marsh and Kleitman (2002) also stated that it is obvious that extracurricular activities had an impact on academic performance and education for many years. The question is how are extracurricular activities affecting academic performance today?

The National Center for Education Statistics (NCES) included in their 1995 report that virtually all students in public schools reported that a core of extracurricular activities was available to them, including sports, performing arts, publications, and honor societies, and all but a small percentage had access to academic clubs and student government, as reflected in Table 1. Slightly less available were non-academic clubs, such as vocational/professional clubs, followed by service and hobby clubs.

Table 1

Percentage of Public School Seniors Reporting Availability of Selected Extracurricular Activities, by Affluence of School in 1992

Extracurricular Activity	Students Reporting Availability of Activity		
	All Public Schools	Less Affluent Schools	More Affluent Schools
Any extracurricular activity	99.8%	99.8%	99.9%
Publications	99.4%	99.3%	99.6%
Performing Arts	98.8%	98.7%	99.1%
Sports (individual and team)	98.7%	98.6%	99.1%
Honor Societies	98.1%	97.4%	98.8%
Student Government	96.5%	94.9%	97.6%
Academic Clubs	95.9%	94.6%	97.0%
Vocational/Professional Clubs	93.3%	93.4%	93.7%
Service Clubs	89.2%	87.2%	90.7%
Hobby Clubs	87.5%	85.4%	89.2%

Though there are concerns about scarce resources in schools serving poor students, no important differences in availability of extracurricular activities in less affluent and more affluent schools were found. Similarly, regardless of whether the schools attended were large (750 students or more) or small (fewer than 150), in rural, urban, or suburban settings, or served large (20% or more minority) or small proportions of minority students (less than 20%), almost all students reported that extracurricular activities were available to them (data not shown in table).

Approximately four of every five seniors said they participated in at least one extracurricular activity in 1992. Although a range of extracurricular activities was available to almost all students, students differed markedly in their choice of activities (Table 2). Sports (either individual or team) had the widest participation, involving 42% of seniors in 1992, followed by performing arts and academic clubs. NCES (1995) included honor societies, publications, and student government that by definition have more limited memberships than other activities; each still drew 16-18% of seniors.

Although differences in availability of extracurricular opportunities between less affluent and more affluent schools were small or nonexistent, students of low socioeconomic status (SES) were less likely to participate in activities than were high SES students. NCES (1995) reported almost three-quarters of low SES students participated in at least one activity, compared with 87% of high SES students. The participation of low SES students was consistently lower than that of high SES students in each type of activity, with the exception of vocational or professional clubs, such as Future Farmers or Future Teachers of America, in which low SES students were almost twice as likely to participate.

Relationships between Extracurricular Participation and Academic Achievement

Researchers have studied the relationship between extracurricular activities and academic performance in adolescents. Darling, Caldwell, and Smith (2005) conducted a longitudinal study concerning extracurricular activities and their effect on various aspects of development, including academic performance. The results showed that the students who participated in school-based extracurricular activities had higher grades, higher academic aspirations, and more positive academic attitudes than those who were not involved in extracurricular activities at all.

VanDuyne (2004) examines the relationship between student participation in extracurricular activities and student academic achievement when differences in learning levels, socioeconomic status, and gender are controlled. VanDuyne's sample is the entire sophomore class of one Indiana school. This study looked at the types of activities, levels of involvement in each type, total participation hours, and the relationship each has with student achievement. An understanding of the relationship will allow school leaders to make sound choices on the proper use of resources to improve student achievement. The results confirmed a positive correlation between extracurricular activities and academic achievement after controls for learning levels, gender and socioeconomic status. On a per hour basis, academic activities were found to be the most beneficial. Service/leadership/recreational activities were second most beneficial. Physical activities were all shown to have a positive relationship with academic achievement, but at a lower level. The number of hours of involvement was shown to make a significant difference.

Sebald (2010) set out to measure the level of student participation in extracurricular activities, adolescent development, and academic achievement. The purpose of this study was to investigate the relationship between the level of student participation in extracurricular activities and academic achievement. Further, this study examined the relationship among three variables

of adolescent development (self-concept, academic self-concept, and problem behavior) and determined the effect they had on academic achievement. This study was conducted in two suburban, Long Island, New York high schools with a predominantly White population. The survey instrument consisted of three parts. The first part had five questions with the first two being demographic and the third, fourth, and fifth being self-reported final language arts grade, final math grade, and extracurricular activity participation, respectively.

The second part utilized dimensions of adolescent development. The last part of the survey asked if respondents participated in extracurricular activities. Students were given a choice of 16 sports and 39 organizations from which to choose. Significant differences were found between students who did participate in extracurricular activities and those students who did not participate in extracurricular activities. The students who participated were more likely to have higher academic achievement, higher self-concept, higher academic self-concept, and lower frequencies of problem behavior. Individual questions for each adolescent developmental characteristic were analyzed. Academic self-concept yielded the most significant items for those students who participated in extracurricular activities. Problem behavior yielded only one question which pertained to *hanging out*.

Sebald (2010) pointed out that those students who participated in extracurricular activities reported doing things that were important, which kept them from being involved in problem behavior. The strongest predictor of academic achievement was academic self-concept. In order for academic self-concept to have such a high predictive value, it must be accompanied by a high level of participation in extracurricular activities and low levels of problem behavior. Given the high correlations, significant differences, and predictability of extracurricular participation and certain developmental characteristics, extracurricular activities enhance the

educational experience and their curtailment results in a loss of important student activities that would adversely affect their grade point average.

Broh (2002) acknowledged the numerous studies that have been conducted concerning the relationship between extracurricular activities and academic achievement. Broh emphasized that participation in extracurricular activities have a broad range of positive impact. Total extracurricular activity participation (TEAP), or participation in extracurricular activities in general, is associated with a higher grade point average, greater educational aspirations, increased college attendance, and reduced absenteeism.

Guest and Schneider (2003), in looking at the previous research on this subject, said, “Researchers have found positive associations between extracurricular participation and academic achievement” (p. 76). They also went on to say that although researchers agree that extracurricular activities do, in fact, influence academic performance, the specific effect that various activities produce is debated. One study, conducted by the Nord, Zill, and Loomis (1995), found that participation in specific activities improves achievement.

The National Federation of State High School Associations (NFHS), based in Indianapolis, Indiana, is the national leadership organization for high school associations. The NFHS in 2011, and throughout its history, has proclaimed that music, parental involvement, and sports have an influence on how children perform academically. The way children choose to spend their free time can affect their school performance; it is not simply traditional in-class instruction that impacts academic achievement. Stephens and Schaben (2002) referenced a study by the U.S. Department of Education that revealed students who participate in co-curricular activities are “three times more likely to have a grade point average of 3.0 or better on a 4.0 scale” (p. 35) than students who do not participate in co-curricular activities. In addition to co-

curricular or extracurricular activities, “analyses revealed that regardless of students’ background and prior achievement, various parenting, volunteering, and home learning activities positively influenced student grades” (as cited in Stephens & Schaben, 2002, p. 4). Numerous studies, Simon (1996) declared, have examined the factors influencing students’ academic achievement, and these same activities were found to have a significant influence.

Elder and Conger (2000), Marsh and Kleitman (2002), and Youniss, McLellan, Su, and Yates (1999) reported participation in these extracurricular activities and service learning activities has also been linked to increases in interpersonal competence, self-concept, high school GPA, school engagement, and educational aspirations. They have also been linked to higher educational achievement, better job quality, more active participation in the political process and other types of volunteer activities, continued sport engagement, and better mental health during young adulthood.

Black (2002) discussed the issue of parents and teachers fearing that when students become too busy with nonacademic activities, they will lose their focus on schoolwork. The data from the Woodstock School (2010) in Woodstock, India suggest the opposite. When the school analyzed the numbers, it found that students who took part in three or four extracurricular activities—ranging from music and drama to athletics—during the year, had dramatically better grades than those who participated in no extra-curricular activities (although increasing the number of extracurricular activities above four did not appear to produce any consistent additional advantage).

Ponter’s (1999) study reflects a strong positive relationship between participation in music and academic performance. “Music should be considered as fundamental to the curriculum as mathematics and reading” (Porter, 1999, p. 110). Eady and Wilson (2004) held a

similar view, believing that “music can influence learning in core subjects as well as contribute to the attainment of core goals in learning” (p. 83). Ponter evaluated the effect that musical performance has on children’s academic performance and thinking abilities, showing that “instrumental music training uniquely enhances the higher brain functions required for mathematics, science, and engineering” (p. 108).

Milley, Buchen, Oderlund, and Mortatotti (1983) conducted a case study on students involved in band and orchestra. Milley et al. found that “concert band and orchestra members scored significantly higher than non-music students on Science Research Associates (SRA) language, math, and composite score; that their GPAs were significantly higher than non-music students; and that they had significantly fewer days absent” (p. 9). This case study concluded that “music students reach higher academic achievement levels in academic studies than non-music students” (Milley et al., 1983, p. 9).

Fioriello (2009) said that when participating in activities, students get the chance of learning group and individual responsibilities, earning eligibility to participate by keeping a minimum grade point average, applying academic skills in actual world context, building physical stamina and patience, and having intrinsically well determined will, good self-esteem and relationship abilities. These activities boost students’ sense of attachment to their school and decrease the possibility of school failure.

Research by McLure and McLure (2000) supports the idea of a positive relationship between extracurricular science achievement and in-class science accomplishments. Adolescents who choose to participate in experiential, science-related extracurricular activities in a casual setting feel confident, especially when teachers are available to offer helpful hints, support student inquiry, and provide enrichment activities. A newfound level of interest in science

stimulates further academic coursework in science, which in turn can lead to students acquiring even greater science knowledge, skills, and interest. Hanson and Kraus (1998) found that science academic achievement among female students could be fostered through their participation in team sporting activities. Middle school girls who are involved in male-dominated sports may well be less intimidated by and more ready to take on the male culture of science classrooms and work environment.

Relationships between Extracurricular Participation and Student Attendance

In 1995, the NCES reported the indicators of successful participation in school include consistent attendance, academic achievement, and aspirations for higher education beyond high school. Extracurricular participation was positively associated with each of these success indicators among public high school seniors in 1992 as reflected in Table 2. During the first semester of their senior year, participants reported better attendance than their non-participating classmates. Half of them had no unexcused absences from school and half had never skipped a class, compared with one-third and two-fifths of nonparticipants, respectively. Students who participated were three times as likely to perform in the top quartile on a composite math and reading assessment compared with nonparticipants. Participants were also more likely than nonparticipants to aspire to higher education: two-thirds of participants expected to complete at least a bachelor's degree while about half of nonparticipants expected to do so. It cannot be known from these data; however, the NCES (1995) said whether participation leads to success, successful students are more inclined to participate, or both occur.

Table 2

Percentage of Public School Seniors Reporting Selected Indicators of School Success by Participation and Nonparticipation in Extracurricular Activities in 1992

Indicators	Participants	Nonparticipants
No excused absences*	50.4	36.2
Never skipped classes*	50.7	42.3
Has a gpa of 3.0 or above	30.6	10.8
Highest quartile on a composite math and reading assessment	29.8	14.2
Expect to earn a bachelor's degree or higher	68.2	48.2

Note. *indicates during first semester of senior year.

Fioriello (2009) emphasized that the participation of a student in extracurricular activities indicates academic attainment, steady attendance, and an ambition to continue education beyond high school. It also fosters positive lifelong working habits and important character traits like efficiency, self-importance, and organization.

The Black (2002) study discussed educator, administrator, and parent concern that when kids are too consumed by extracurricular activities, academics take a backseat. The data from Woodstock School (2010) in Woodstock, India tells a different story. When the data from Woodstock was revealed, it showed that children who chose to participate in three or four extracurricular activities in one year had significantly higher scores than those who chose not to participate in extra-curricular activities.

Black (2002) noted a strong association between student involvement in extracurricular activities and improved attendance, behavior, and academic performance. Along with Black,

Fredricks and Eccles (2006), Fujita (2006), and Holloway (2002) pointed out that these findings do not address the *chicken-and-egg* question: Does involvement in extracurricular activities actually improve outcomes for individual students, or do better students simply tend to get involved in more extracurricular activities? In the Black's study, one high school's experience suggests that a concerted effort to increase extracurricular offerings and participation can contribute to school-wide academic improvement.

Relationships between Student Attendance and Academic Achievement

NCES (1995) reported it was clear that participation and success are strongly associated as evidenced by participants' better attendance, higher levels of achievement, and aspirations to higher levels of education. Furthermore, the data indicate that differences in participation were not related to differences in availability, as extracurricular activities were available to virtually all high school seniors regardless of the affluence, size, location, or minority status of the school students attended.

Despite wide availability of activities, low SES students participated less than did their high SES classmates (NCES, 1995). This participation gap is a cause for concern, especially if extracurricular activities can be a means of bringing at-risk students more fully into the school community, thereby increasing their chances of school success. In spite of the gap, however, low SES students participated at fairly high levels, and they persisted in their participation regardless of the relative affluence of the schools they attended. Neither the gap nor the persistence is explained by these data, but together, as the NCES (1995) stated, they suggest the value of further study of the individual constraints of poverty and family background and the influence of school community on student engagement.

The Tucson Unified School Corporation (TUSC, 1998) investigated possible effects of student attendance on measures of student achievement. This required calculating individual student attendance rates for all students in the district. Student attendance rate was calculated as the percentage of scheduled classes attended throughout the school year 1996-1997. A comparison of achievement scores between students with high and low absence rates yielded statistically significant differences. Students attending classes with high attendance rates scored an average of two to three normal curve equivalent (NCE) points higher than students attending classes with low attendance rates.

Comparing achievement scores between students with good and poor attendance rates produced more dramatic differences in student achievement. In addition to larger mean differences in achievement scores, the strength of association between student attendance and achievement scores was also greater as presented in Table 3.

The greatest differences in student achievement were found, as reported by the TUSC (1998), between students with poor attendance in classes with poor teacher attendance. The TUSC compared these differences in student achievement to students with good attendance attending classes with good teacher attendance.

Analysis of the relationship between student and teacher attendance rates and student achievement suggested that poor teacher attendance combined with poor student attendance yielded the lowest Stanford 9 scores followed by poor student attendance alone. That is, poor teacher attendance alone appeared to have the smallest impact on student achievement.

Table 3

ANOVA Results for Student Performance on the Stanford 9 by Student Attendance (N = 36206)

Student Attendance	Stanford 9 (NCE)		
	Reading	Mathematics	Language
High Attendance Group	50.66	50.62	48.38
Low Attendance Group	45.33	43.54	42.03

Note. All differences were statistically significant ($p < .05$). TUSC (1998).

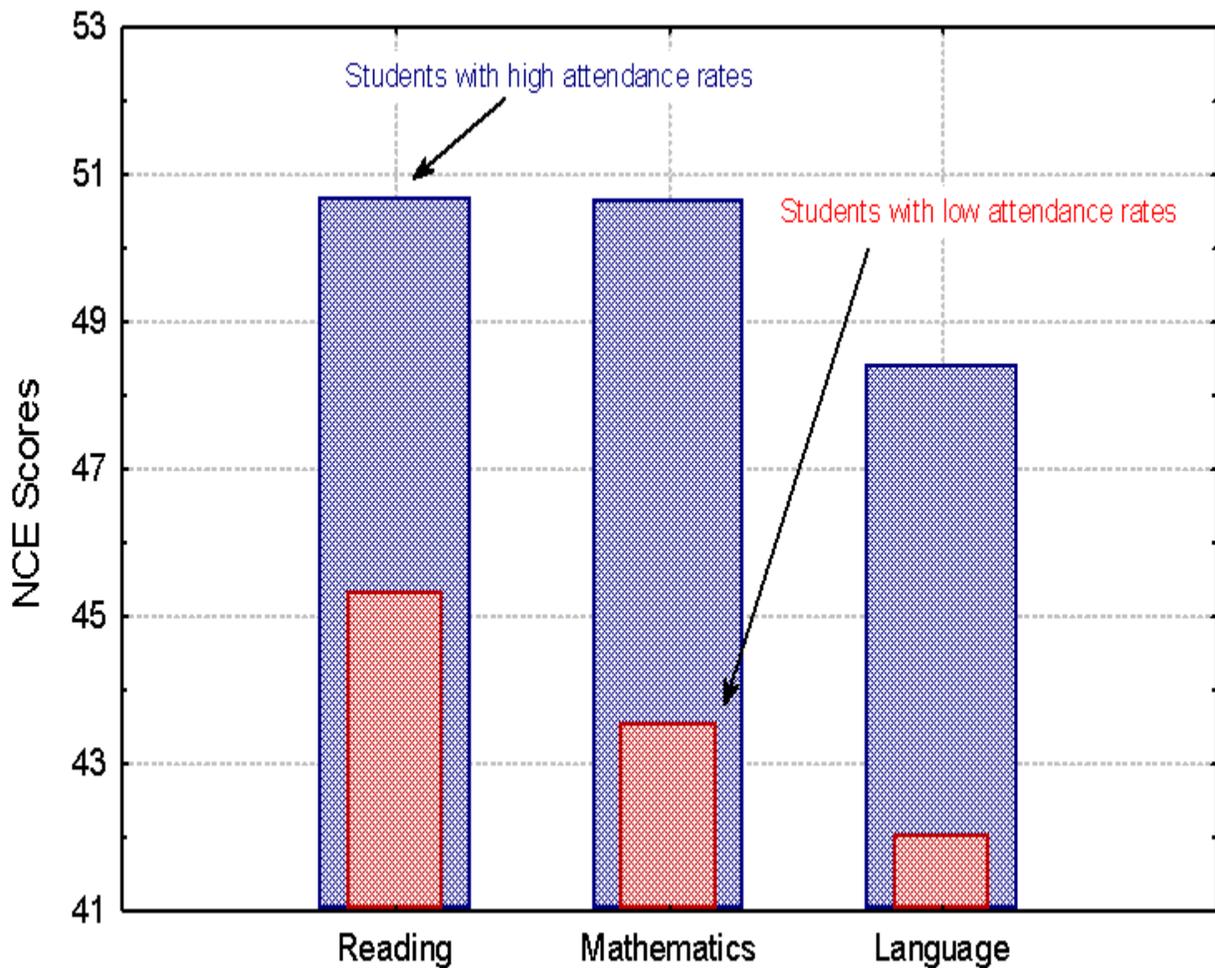


Figure 1. Attendance vs. assessment scores (TUSC, 1998)

Table 4

Strength of Association between Student Attendance and Student Performance on the Stanford 9

(*N*=34139)

Variable	Stanford 9		
	Reading	Mathematics	Language
Student Attendance	.16 (2.6%)	.20 (4.0%)	.18 (3.2%)

Note. All correlations were statistically significant ($p < .05$). Numbers in parentheses indicate the percentage of variance accounted for in Stanford 9 scores by the variable. TUSC (1998).

Relationships between Extracurricular Participation and Student Discipline

Eccles and Gootman (2002) and Eccles and Templeton (2002) argued that constructive, organized, extracurricular activities are a good use of the adolescents' time because such activities provide opportunities to (a) acquire and practice specific social, physical, and intellectual skills that may be useful in a wide variety of settings including school; (b) contribute to the well-being of one's community and to develop a sense of agency as a member of one's community; (c) belong to a socially recognized and valued group; (d) establish supportive social networks of peers and adults that can help in both the present and the future; and (e) experience and deal with challenges. In turn, Eccles and Gootman and Eccles and Templeton said these assets are predicted to facilitate both current levels of school engagement and achievement and subsequent educational and occupational attainment and to prevent the emergence of risky behavior patterns that can mortgage young people's future.

Support for these suggestions comes from both classic sociology studies of the relation of extracurricular activities to school achievement and the newer research. Osgood, Anderson, and Shaffer (2005) reported leisure studies, sports psychology, prevention science, and the

interdisciplinary studies of adolescent development support the prevention of the emergence of risky behavior when young people are involved in extracurricular activities. Several sociological studies in the 1970s documented a strong link between adolescents' extracurricular activities and adult educational attainment, occupation, and income, even after controlling for social class and cognitive ability. Among these studies, Landers and Landers (1978) documented a protective association between extracurricular activity participation and involvement in delinquent and other risky behaviors.

School is a place where students can become involved with extracurricular activities and find the lessons to help them make good choices and become successful adults. Marsh (1992) theorized that extracurricular involvement increases student self-concept, which in turn positively affects school performance academically and socially. The result of the study by the NCES (1986) indicated that the total amount of participation in extracurricular activities positively related to many factors including social self-concept, discipline, advanced course, time spent on homework, post secondary aspirations, and GPA. This research suggests that student participation in extra-curricular activities is beneficial to academic achievement, social behaviors, and the individual growth of the child.

Coakley (1964) suggested that growth and development occur in connection with many different experiences. Extracurricular activities are experiences that can help foster growth and development in school. Extracurricular activities are often seen to be only athletic activities, but extracurricular activities take many forms. In this research, extracurricular activities included sports and academic-oriented activities. There were also boys and girls involved in extracurricular activities together in which a high number of students had the opportunity to become involved. Involvement in extracurricular activities did not necessarily ensure

acceptance, responsibility, or the physical and emotional maturation of students. However, there was strong evidence to suggest that there were benefits to students who participated in the extracurricular activities.

Karweit and Hansell (1983) suggested that the environment of the school may produce a variety of outcomes when it comes to student discipline, depending on what social and ethnic group the individual student belongs to in the school. Students in poverty, for example, may be more likely to be involved in extracurricular school activities where they are in the majority and not as likely to be involved in higher SES schools where they are in the overall minority. This research includes, however, that regardless of their SES, students' participation was not related to the social environment of the school. Students of poverty were involved at the same rates whether they attended high poverty or low poverty schools, and so did high SES students.

Mahoney (2000) suggested more rigorous work is beginning to emerge in the fields of developmental and prevention science and sport psychology. For example, participation in voluntary, school-based, extracurricular activities increased school participation and achievement and decreased discipline referrals because it facilitates

1. the acquisition of interpersonal skills and positive social norms,
2. membership in prosocial peer groups, and
3. stronger emotional and social connections to one's school. In turn, these assets increase mental health, school engagement, school achievement, and long-term , educational outcomes and decrease participation in problem behaviors. (Mahoney, 2000, p. 1)

Dick's (2010) study examined more possible relationships between participation in extracurricular activities and student achievement, participation in extracurricular activities and

attendance, and participation in extracurricular activities and behavior. The setting for this study was one high school in Nebraska. Data for 275 of the school district's 2007-2008 and 2008-2009 high school graduates were obtained from the high school activities office and the school district's student management system. Ten research hypotheses were tested using appropriate statistical analyses.

Relationships were found for these five research hypotheses:

1. Students who participated in extracurricular activities had a higher grade point average than students who did not participate,
2. Students who were involved in extracurricular activities had a higher percentage of school attendance than students who did not participate,
3. Students who participated in only sport activities received more disciplinary referrals than students who participated in only non-sport activities,
4. Students whose families had a higher level of socio-economic status were more likely to participate in extracurricular activities, and
5. White students were more likely to participate in extracurricular activities than Hispanic and other racial ethnic backgrounds. (Dick, 2010, p. 3)

No relationships were found for these five research hypotheses:

1. Between grade point averages of students who participated in only sports activities and grade point averages of students who participated in only non-sport activities;
2. Between attendance of students who participated in only sports activities and attendance of students who participated in only non-sport activities;
3. Between participation in extracurricular activities and disciplinary referrals;

4. Between grade point averages of students who participated in only sports activities, grade point averages of students who participated in only non-sport activities, and grade point averages of students who participated in both sport and non-sport activities; and
5. Between attendance of students who participated in only sport activities, attendance of students who participated in only non-sport activities, and attendance of students who participated in both sport and non-sport activities. (Dick, 2010, p. 5)

Bulling (1992) examined the relationship of involvement in athletics and other types of extracurricular involvement to personal development. Ninety men (45 athletes and 45 non-athletes) and 88 women (44 athletes and 44 non-athletes) completed an Extracurricular Involvement Inventory (EII) to determine their level of extracurricular involvement. Students also completed the Student Developmental Task and Lifestyle Inventory (SDTLI) to assess the level of personal development on three tasks: Interpersonal Relationships and Behavior, Clarifying Purpose, and Academic Achievement. Results indicated that involvement in extracurricular activities provided a significant unique contribution to the interpersonal relationships and behavior task and the clarifying purpose task. As extracurricular involvement increased, so did scores on the personal development measures. Involvement in athletics alone did not provide a significant unique contribution to any of the personal development measures. An interesting relationship between gender and athletic status was found on the interpersonal relationships and behavior task that was not statistically significant, but was deemed important and further study was urged. Female athletes scored higher on the interpersonal relationships and behavior task than male athletes but male non-athletes scored higher than female non-athletes. When unique contribution was not considered, the results show that extracurricular

involvement was a significant predictor of all the personal development measures. Gender was a significant predictor of the clarifying purpose task score. Athletic status was a significant predictor of the clarifying purpose task score.

Relationships between Student Attendance and Academic Achievement

The University of Illinois (2010) study on school attendance consistently shows that low absenteeism is correlated to students' positive school behavior, participation in extracurricular activities, higher grades, and better long term educational outcomes. This research found that most students want to enjoy school, participate, and do well in their coursework. Absenteeism was related to a constellation of issues and should receive prompt and persistent attention from school faculty until the concerns have been resolved and the student has an educational plan in place that will move the student along academically.

Early absence matters because it adversely affects academic successes and affects large numbers of children, especially in schools that are low functioning in math and reading. Chang and Romero's (2008) report found that chronic absence in kindergarten is associated with lower academic performance in first grade for all children regardless of gender, ethnicity, or SES. The relationship is especially strong for Latino children, who had much lower first grade readings scores if they were chronically absent in kindergarten. This relationship reflects the consequences of less time on task. Participation in full-day as opposed to half-day kindergarten seems to lessen the negative impact of chronic absence in kindergarten among poor children. Going to school regularly in the early years is especially critical for children from families living in poverty, who are less likely to have the resources to help children make up for lost time in the classroom. Chang and Romero included that among poor children, chronic absence in kindergarten predicts the lowest levels of educational achievement at the end of fifth grade.

Early absence affects substantial numbers of children nationwide and is even more problematic in some districts and schools. An estimated one in 10 kindergarten and first-grade students are chronically absent nationally. Prevalence of chronic early absence varied markedly across the nine localities studied by Chang and Romero (2008); it ranged from affecting one out of 20 to almost one out of four students enrolled in Grades K-3. The National Center for Children in Poverty (NCCP, 2008) reported that chronic absentees in kindergarten had the lowest academic performance in first grade.

Nauer, White, and Yerneni (2008) pointed to domestic issues at home being one more obstacle in the way for students getting to school regularly. The data presented in their study found that a high number of absences in New York City started in kindergarten and first grade and was much more of a concern than had been in previous reports. It was reported that nearly 100,000 students in the primary grades, or one-fifth of the total enrollment, was absent more than a month of school during the 2007-2008 school year. The study named numerous reasons for significantly high rates of primary grade absenteeism. Health issues such as asthma, transportation problems (particularly for students with physical handicaps), and starting at a new school caused by eviction or traveling between homeless shelters were all cited. There were issues of family instability, such as a parent being diagnosed as bipolar or with other mental disabilities. Absences were also associated with cultural barriers such as English being a second language. Problematic family priorities, including excessive vacation time while school is in session. State departments of education hold the schools responsible for attendance. School administrators also hold themselves accountable in both their attention to the issue and in their efforts to provide a safe and welcoming place where students want to be and that parents support, respect, and value. Taking on these issues directly, alongside a high number of absences “will

improve academic success in the long-term, but also strengthen families and improve the quality of many children's lives" (Nauer et al., 2008, p. 1).

Hickman, Bartholomew, and Mathwig (2007) stated a low attendance rate for primary grade students can predict significant attendance problems for the secondary years as well. High school dropouts have a history of having a long rap sheet of discipline contacts, including a significantly high number of absences throughout their school years, at a higher rate than those who received their high school diploma. These differences in school attendance were recorded in pre-kindergarten, and students who quit high school missed significantly more days of school in pre-kindergarten and kindergarten than the students who received a high school diploma. In eighth grade, Hickman et al. (2007) emphasized this pattern was highly common and, by ninth grade, school attendance was shown to be a predictor of a student graduating from high school.

The effects of how lost school days build up one absence at a time were noted by Allensworth and Easton (2005) on individual students. Discipline contacts for kids who have a significant number of absences may not be an effective deterrent. The discipline contact response to a high number of absences most often includes course credits being pulled, detention, and suspension. Any absence, whether excused or not, denies students the opportunity to become engaged in accordance with the school's instructional program, but students who miss school, Allensworth and Easton pointed out, are sometimes further excluded from learning opportunities as a consequence of chronic absenteeism.

Surprisingly few researchers have explicitly examined the associations between elementary school attendance and children's cognitive development. This is partly a function of the fact that, until recently, nationally representative longitudinal data on young children were not available. Cross-sectional analyses of data from the National Assessment of Educational

Progress (NAEP) suggest that only 21% of eighth graders who missed more than three days of school per month scored at or above basic levels, compared to 45% of children who missed no days of school (NCES, 2007).

Other cross-sectional studies, Caldas (1993) and Lamdin (1998) using student measures aggregated to the school level, also reported negative relationships between student absences and academic performance. School-level studies lose a considerable amount of within-school variability in terms of student achievement, attendance, and socioeconomic background. They ignore the hierarchical nature of the data (e.g., children are nested within schools), which raises both conceptual and statistical concerns (Raudenbush & Bryk, 2002; Snijders & Bosker, 1999).

Though the evaluation of the relationship between student attendance and student achievement has received less attention among education researchers, Corville-Smith (1995) and Sheldon and Epstein (2002) have agreed attendance is nonetheless credited as being an important component of school success. Students with better attendance records are cited as having stronger test performance. Balfanz and Byrnes (2006) and Lamdin (1998) supported the notion that student attendance records can serve as direct signals of school quality.

Dreyfoos (1990) focused on negative issues pertaining to decreased attendance. Lower attendance rates have been cited as detrimental to learning and academic achievement, and an increase in absences in elementary and middle school can be predictive of higher risk factors in both concurrent and future years of education. Academically, Chen and Stevenson (1995) report students who do not attend school as frequently receive fewer hours of classroom instruction and consequently perform more poorly on standardized assessments in that same year. Having consistently low levels of attendance in early grade levels, Dreyfoos reported, is also correlated with higher future academic risks, including nonpromotion and dropping out.

Johnson (2005) addressed the sociological and economic concerns associated with students having low attendance rates. Sociologically, decreased attendance is related to increased alienation from classmates, teachers, and schools. Missing school is correlated with current and future risky behaviors, such as tobacco, alcohol, and drug use. Economically, students who do not attend school as frequently (and thus have a higher correlated risk for nonpromotion and dropping out as mentioned above) tend to face greater future financial hardships, such as unemployment.

Orfield and Kornhaber (2001) suggested that the academic, sociological, and economic issues related to both increased and decreased attendance are heightened for youth in urban school systems. Increased attendance in math classes has been attributed with reducing the severity of the math achievement gap for urban students. The importance of attending school in early years appears to be crucial for urban youth, because it is particularly these minority and high-poverty students who fall behind in math achievement beginning as early as fourth grade.

It is always interesting that the most active students in the high schools—the sports team members, the student government types, the musicians, actors, school newspaper editors—always seem to be the ones with the best grades, too. Students who are involved with extracurricular activities tend to have better grades, better attendance records, higher senses of confidence, better social skills, and lower rates of dropping out and getting in trouble.

Students who participate in structured, supervised activities outside the school day enjoy improved discipline, leadership, teamwork, responsibility, and attitudes about learning. They have opportunities to discover interests and talents, to increase their sense of accomplishment, and to socialize with kids of similar interests. Parents must consider areas of interest of their

children. There are plenty of areas from sports to recreation, visual arts, music, dance, drama, creative writing, school newspaper, government, and volunteering.

Relationships between Student Discipline and Academic Achievement

Posner and Vandell (1999) found that such programs can provide low-income students with experiences similar to those of middle-class students with access to a rich array of lessons in dance, music, and art, sports, and tutoring. Posner and Vandell encouraged valuable peer interaction. McNeal (1995) indicated that extracurricular participation provides previously marginalized students with access to a more *elite* stratum of the student population and exposes the students to peers who have better attitudes toward school.

McNeal (1995) indicated extracurricular activities instill a less competitive focus in participants, foster a more cooperative environment, and may therefore encourage students to stay in and complete school. Mahoney (2000) and Posner and Vandell (1999) supported the notion that high-quality extracurricular activities build relationships between students and the competent, responsive adults who supervise such activities. Extracurricular activities provide structure and challenge. Mahoney, who extended the work of Posner and Vandell, focused on adolescents in after-school activities; he determined that effective youth activity programs are highly organized and encourage increasingly complex skill building for participants. Participating in an extracurricular activity connects students more deeply to the school, its faculty, a peer group, and school values (Mahoney, 2000; Mahoney & Cairns, 1997).

Jordan and Nettles (1999) found that adolescents who participated in structured activities supervised by positive adult role models were more likely to make personal investments in their schooling. That investment might, in turn, motivate them to excel academically.

Davalos, Chavez, and Guardiola (1999) studied the effects of participation in extracurricular activities on Mexican-American students and found that those involved in such activities were more likely to stay in school than their uninvolved peers. They draw students—especially minorities and women—to science. Sorge, Newsom, and Hagerty (2000) studied the positive effects of minority student participation in extracurricular activities. Their research supports previous studies that showed exposure to extracurricular science activities has a positive impact on students' science attitudes.

Kelstrom (1998) reported that music continues to impact academic performance throughout a student's educational career. Kelstrom's study was conducted on this relationship in students as young as preschool through college-aged students. In all age groups studied, music was proven to have an impact on academic performance. Ponter's (1999) study stated that the College Entrance Examination Board (CEEB) reported that high school students who had some experience with music performance or music appreciation scored higher on the SAT. The students who had a background in music scored between 51 to 61 points higher on the verbal section and 39 to 46 points higher on the math section than the students with no music background. The College Board, the organization who is responsible for administering the Scholastic Aptitude Test (SAT) conducted studies indicating that music/art students consistently scored significantly higher on both the math and verbal sections of the SAT.

Kelstrom (1998) confirmed the belief that the relationship between music and academic performance is positive; researchers have found that music instruction actually enhances student achievement in areas outside music. It is believed that music develops critical thinking skills and improves skills in reading, writing, and math. Music develops and improves spatial intelligence, which transfers to high-level math and science. It develops perceptual skills necessary in many

academic areas. According to Kelstrom's (1998) study, music has a strong influence, because it produces and develops skills needed for many academic processes.

Along with positive connections between extracurricular activities and academic performance, most of the literature reviewed reported a negative relationship between television viewing and academic performance. Bar-on (1999) reported that nearly 4,000 studies have been published on measuring the effect of television on children. The results suggest a correlation between high rates of television viewing and aggressive and violent behavior and lower academic performance. Thompson and Austin (2003) reported no significant relationship between television viewing and academic performance, and a few studies have found a large and significant relationship, although most have discovered a small, yet significant relationship.

Relationships between Extracurricular Participation and At-Risk Students

Lamborn, Brown, Mounts, and Steinberg (1992) wrote that nearly every high school in America offers some type of extracurricular activity, such as music, academic clubs, and sports. These activities offer opportunities for students to learn the values of teamwork, individual and group responsibility, physical strength and endurance, competition, diversity, and a sense of culture and community. Extracurricular activities provide a channel for reinforcing the lessons learned in the classroom, offering students the opportunity to apply academic skills in a real-world context, and are thus considered part of a well-rounded education. Lamborn et al.'s research suggests that participation in extracurricular activities may increase students' sense of engagement or attachment to their school and thereby decrease the likelihood of school failure and dropping out.

Eccles, Barber, Stone, and Hunt (2003) reported the growing interest in the developmental consequences of extracurricular and after-school programs for youth, fueled, in part, by

1. concerns about the role such activities might play in promoting school achievement and preventing school disengagement and other problems,
2. the continuing social class and ethnic group disparities in school achievement,
3. concerns about the preparation of American youth for an increasingly demanding and technical labor market, and
4. the amount of unsupervised time experienced by so many youth. (p. 10)

Eccles and Gootman (2002), Eccles and Templeton (2002), and Pittman, Tolman, and Yohalem (2005) found primary school and middle school students in the United States spend nearly eight hours a day in leisure-type activities. Larson and Verma (1999) added a significant portion of this leisure time is spent in either unstructured peer-focused activities or watching television and playing video games. Both child psychologists and youth policy advocates have recommended that this leisure-type activity time could be better spent by participating in high quality out-of-school and after-school extracurricular activities that would both foster positive development and prevent the emergence of developmental problems.

Eccles and Gootman (2002) noted that the opportunity to participate in these types of activities is inequitably distributed throughout schools and communities in this country, with less opportunity and lower availability in precisely those schools and communities where the middle school and secondary-age students are at highest risk to be less developed in hand-eye type of coordination. Mahoney, Larson, and Eccles (2004) mentioned interest in physical coordination development consequences of extracurricular activities and after-school sponsored activities has

been stimulated also by an increased interest in positive child psychology and positive youth development. Pittman, Irby, Tolman, Yohalem, and Ferber (2003) supported a positive youth development, in particular, stress that extracurricular activities are needed to fully prepare students of all ages for the transition into higher education, the workforce, or the armed forces. The need for extracurricular activities is especially important for students living in poor communities.

Karweit and Hansell (1983) suggested that the social environment of the school may have a significantly wide influence on student discipline contacts, depending on whether a specific student is in a certain ethnic group or minority in the school. Students of poverty, for example, may be more likely to choose to participate in school activities where they are in the majority group and less likely to participate in a higher SES school where they are in the minority. These data include, however, that regardless of their socioeconomic background, students' participation in extracurricular activities was not related to the social environment of the school. Students of poverty participated in the same number of extracurricular activities whether they attended poor school districts or more affluent school districts, and so did upper SES students.

Kleese and D'Onofrio (1994) stated specific socioeconomic factors rather than school factors are the reason for differences in extracurricular participation. Why do students, especially those from poor families, make a difference? Kleese and D'Onofrio (1994) identified several reasons that limit student participation, ranging from the obvious, including family jobs or work responsibilities, few resources for equipment or other expenses, and busing or other logistical difficulties. The more complex, such as lack of motivation or alienation from school and its extracurricular activities, are among the identifiable reasons as noted in Table 5.

Table 5

Percentage of Public School Seniors Participating in Selected Extracurricular Activities by SES of Student and Affluence of School in 1992

Selected Activity	*All Students	Low SES Students		High SES Students	
		Less Affluent Students	More Affluent Students	Less Affluent Students	More Affluent Students
Any activity	79.9	74.7	73.0	86.8	87.6
Sports	42.4	34.3	33.2	48.6	53.1
Performing Arts	27.5	25.0	20.7	32.0	29.2
Academic Clubs	26.2	20.2	20.5	36.2	32.3
Vocational/Professional Clubs	20.8	29.2	25.6	16.0	11.8
Honor Societies	18.1	10.3	10.0	30.8	29.9
Publications	17.0	17.6	9.5	22.4	20.0
Student Government	15.5	12.6	9.9	17.5	20.9
Service Clubs	15.2	10.0	9.4	25.0	21.1
Hobby Clubs	8.5	8.2	6.9	9.4	9.6

Note. * Includes students in middle two quartiles.

Larson (2000), Larson and Kleiber (1993), and Youniss et al. (1999) conducted research in both leisure studies and adolescent development that provides support for the benefits of participating in the kinds of constructive leisure activities associated with extracurricular activities and service learning. Mahoney (2000) and Mahoney and Cairns (1997) documented the link between extended participation in extracurricular activities during high school and

reduced rates of school dropout and criminal offending, particularly during the early high school years and for high-risk youth.

Gould and Weiss (1987), Marsh and Kleitman (2003), and McNeal (1995) indicated sports participation has been linked to lower likelihood of school dropout and higher rates of college attendance, particularly for low achieving and blue-collar male athletes. Participating in extracurricular activities is associated with both short- and long-term indicators of positive development including school achievement and educational attainment. They all concur these relations hold even after the other obvious predictors of such outcomes are controlled—giving confidence that these effects do not just reflect the selection factors that lead to participation in the first place.

Fioriello (2009) said that when participating in activities, students get the chance of learning group and individual responsibilities, earning eligibility to participate by keeping a minimum grade point average, applying academic skills in actual world context, building physical stamina and patience, and having intrinsically well-determined will, good self-esteem and relationship abilities. These activities boost a students' sense of attachment to their school and decrease the possibility of school failure.

Woodstock School (2010) findings suggest that when a school makes a commitment to increase extracurricular participation, the entire school community benefits. The Woodstock Academy witnessed similar phenomena at the middle school and elementary school levels. When principals and teachers created clubs, sports, and activities for students they witnessed improvements in behavior, attendance, and academic performance. The positive peer pressure associated with extracurricular activities was noted as the one reason for the improvement.

The Illinois State Board of Education (1995) reported research has shown the importance of the arts to a student's academic and social development. Bucknavage and Worrell (2005) surveyed the participation rates of academically talented students across nine areas: dance, solo instrument, choral music, band, athletics, student government, academic clubs, ethnic/cultural clubs, and *other activities* category. Results indicated that athletics was the activity in which boys and girls reported greatest participation across cohorts. Significant differences in rates were found for participation in athletics, choral music, and dance in the direction of gender-stereotypical expectations. Differences were also found among ethnic groups and across grade levels in certain activities. This research concluded that the results contradict the nonathletic stereotype sometimes associated with students who are academically talented.

Maslow (1943) wrote that clearly creative behavior, like painting, is like any other behavior in having multiple determinants: It may be seen in *innately creative* people whether they are satisfied or not, happy or unhappy, hungry or sated. Also, it is clear that creative activity may be compensatory, ameliorative, or purely economic. Maslow (1943) said that it is possible to distinguish the artistic and intellectual products of relatively satisfied people from those of basically unsatisfied people by inspection alone. In any case, here too it must be distinguished, in a dynamic fashion, the overt behavior itself from its various motivations or purposes.

Jordan and Nettles (1999) reported on how students invest their time out of school and effects on school engagement, perceptions of life choices, and achievement. They found student participation in structured activities and time spent alone were more positively correlated with math and science achievement, though the effects were not dramatic. Negative effects were seen from *hanging out* with friends and working for pay. Out of all of the variables, Jordan and

Nettles stated that only time spent alone was negatively related to perceived life chances, i.e., hanging out and structured activities both were associated with a happy future.

Student *investments* in out-of-school activities seemed to have an impact on educational outcomes; the adolescents apparently responded well to structured activities and positive adult role models. Fujita (2006) pointed out that families with economic means and social capital have greater opportunities for out-of-school activities. The fact that the observed payoffs were measured two years after the out-of-school activities took place is notable, and persons who organize out-of-school programming in science and mathematics will find the correlations useful for justifying their work.

Hulya, Kosar, and Kin-Isler (2001) noted the benefits of organized physical activity, regarding the health of young people, have consistently been highlighted by researchers. Hagger, Ashford, and Stambulova (1998) reported organized physical activity has been shown to assist in children's psychological well-being and may assist in their adherence to regular physical activity into adulthood, where there may be further benefits such as reduced risk of hypokinetic diseases. Scherman, Gasnier, Jaudon, and Henry (1988) concurred that organized physical activity affects the overall functioning of an individual.

A growing body of evidence supports these notions concerning the importance of children's self-representations by demonstrating their associations with concurrent and subsequent functioning. Cole et al.'s (2002) longitudinal study of a middle-childhood sample revealed that positive self-representations of competence are predictive of children's low levels of depression, whereas negative self-representations of competence are predictive of increasing levels of depression over a four-year period. Caldwell, Rudolph, Troop-Gordon, and Kim (2004)

reported that within an early adolescence sample, negative self-representations were predictive of disengagement from peers, which contributed to heightened stress in peer relationships.

Salmivalli and Isaacs (2005) reported that fifth- and sixth-graders' negative representations of *social* self (i.e., the self-considered within a peer context) served as a risk factor for multiple forms of peer adversities, such as peer victimization and rejection, which in turn influenced children's perceptions of their peers. Davis-Kean et al, (2008) provided findings to support their contention that children's thinking, specifically efficacy beliefs, becomes more predictive of their behaviors over time.

Mahoney and Cairns (1997) examined the relation between involvement in school-based extracurricular activities and early school dropout. Early school dropout was defined as failure to complete Grade 11. Findings indicate that the school dropout rate among at-risk students was markedly lower for students who had earlier participated in extracurricular activities compared with those who did not participate ($p < .001$). However, extracurricular involvement was only modestly related to early school dropout among students who had been judged to be competent or highly competent during middle school.

Mahoney (2000) studied school extracurricular activity participation as a moderator in the development of antisocial patterns. This research involved a longitudinal study of antecedents and moderators in the development of antisocial patterns. Participants included 695 boys and girls who were interviewed annually from childhood to the end of high school and again at ages 20 and 24. Cluster analyses identified four configurations of boys and girls that were reasonably homogeneous with respect to behavior and academic performance at the beginning of the investigation. When tracked over time, the configurations differed significantly in patterns of early school dropout and criminal arrests. Boys and girls in the *multiple risk*

configurations were more likely than those in other configurations to show long-term antisocial patterns. Participation in school extracurricular activities was associated with reduced rates of early dropout and criminal arrest among high-risk boys and girls. The decline in antisocial patterns was dependent on whether the individual's social network also participated in school extracurricular activities.

Melnick (1992) examined the academic outcomes of school-sponsored athletic team participation of middle school and high school minority students. These data revealed a number of factors that inspire secondary students to become, and stay, involved in extracurricular activities. Teachers and sponsors can differentiate the lessons of students' extracurricular involvement to support classroom practice and improve academic achievement that motivates all students in the school. Melnick's findings show that students who choose to participate in extracurricular activities contributed to higher academic achievement among Hispanic girls. She also discovered that sponsors and coaches, especially Hispanic female sponsors and coaches, exerted a positive influence on the female gender identity development, environmental adjustment, and academic achievement. Participation in extracurricular activities helped Hispanic girls to challenge and resist the *Maria paradox*, which funnels secondary-age girls toward passivity and submission to male authority.

Melnick's (1992) findings show that this identity transformation translated into higher rates of success in the classroom. These qualitative findings echo key results from the Women's Sports Foundation (1989), a quantitative nationwide survey of the effects of varsity sports participation on the social, education, and career mobility of minority students. A cluster of findings from this analysis of the *High School and Beyond* (U.S. Department of Education, 2011) database showed that Hispanic female athletes derived a variety of positive outcomes from high

school athletic participation. Hispanic female athletes, especially from rural schools, were more apt than non-athletes to improve their academic standing while in high school, graduate, and attend college following high school.

CHAPTER 3

METHODOLOGY

Purpose of the Study

The purpose of this study was two-fold in nature. First, this study sought to identify whether extracurricular participation for students in a rural, Grades 7-12 building created significant differences when examining academic performance, attendance, gender, lunch status, and student discipline compared to their non-participant peers. Secondly, this study examined the impact extracurricular participation, attendance, gender, lunch status, and discipline has on academic performance for rural students. These three factors were then compared to determine the overall rank-order of impact on academic performance.

Research Questions

1. Is there a significant difference between extracurricular participants and non-participants in language arts standardized testing performance?
2. Is there a significant difference between extracurricular participants and non-participants in mathematics standardized testing performance?
3. Is there a significant difference between extracurricular participants and non-participants on the number of days not in attendance?
4. Is there a significant difference between extracurricular participants and non-participants on the number of student discipline contacts?

5. Is extracurricular participation, attendance rate, gender, free and reduced lunch status and/or the number of discipline contacts a predictor of language arts standardized testing performance?
6. Is extracurricular participation, attendance rate, gender, free and reduced lunch status and/or the number of discipline contacts a predictor of mathematics standardized testing performance?

Null Hypotheses

The following null hypotheses were generated from the research questions:

1. There is no significant difference between extracurricular participants and non-participants on language arts standardized testing performance.
2. There is no significant difference between extracurricular participants and non-participants on mathematics standardized testing performance.
3. There is no significant difference between extracurricular participants and non-participants on the number of days not in attendance.
4. There is no significant difference between extracurricular participants and non-participants on the number of student discipline contacts.
5. Extracurricular participation, attendance rate, gender, free and reduced lunch status and the number of discipline contacts cannot predict language arts standardized testing performance.
6. Extracurricular participation, attendance rate, gender, free and reduced lunch status and the number of discipline contacts cannot predict mathematics standardized testing performance.

Description of the Sample

The study involved students who are served in rural secondary buildings from public, non-charter schools in the state of Indiana that have students enrolled in Grades 7–12 with an enrollment under 750 students. A list of schools was generated from the Indiana Department of Education website that meets the definition of rural secondary schools (see Appendix A). An email was sent to the superintendent of each district inviting him or her to participate in the study with an attached letter (Appendix B). A letter validating the superintendent's consent to participate was then sent (Appendix C) if the superintendent agreed to participate. If the superintendent agreed to participate, an Excel™ spreadsheet identifying needed data was sent for the contact personnel identified by the superintendent to enter data. Students in Grades 8 and 10 were the focus of this study since these grades are the only students who are tested by standardized testing in the state.

Data Sources and Procedures

For this study, the public, non-charter, rural Indiana schools were represented. The students were in Grades 8 and 10. Standardized testing scores for language arts and mathematics, number of extracurricular activities participated in, free and reduced lunch status, discipline, and attendance were acquired from a request of data with an Excel™ spreadsheet to the personnel designated by the superintendent to gather the information from the school information system. The Excel™ spreadsheet was user-friendly so that the personnel designee was able to transfer information as efficiently as possible. Superintendents received the results from this study if they accepted the invitation. Superintendents were encouraged to accept the invitation to participate in this study as it was anticipated these results would be a powerful tool for education leaders. In this economical downtime in history, education leaders have to make

difficult budgetary decisions that may leave extracurricular activities in danger of being eliminated. This data would serve as a powerful tool that shows the positive impact that extracurricular activities have on academics.

Student participation or nonparticipation in extracurricular activities, as well as the number of activities, was obtained from the designated school personnel as well. Participation included athletics, music, academic teams, clubs, FFA, drama, or any other activity that fell outside the normal daily curriculum.

Confidentiality was of the highest priority. No student names were used. Information was stored on a password protected laptop. There was no school identified in the results of the study. This study sought to maximize the potential sample drawn by inviting all rural secondary schools to participate in the study. This decision was made in order to generate the most possible power for the statistical tests found within this study. Any data that were not received within one month of sending the Excel™ file was exempt from the study.

Method of Analysis

H₀₁ and H₀₂ used standardized testing performance scores for language arts and mathematics as the dependent variables. Each standardized testing performance score utilized a *z*-score. The *z*-scores were calculated for each student by grade level, since the metrics between tests were different for each grade level. H₀₃ and H₀₄ used student attendance and discipline contacts. Participants from extracurricular activities were compared with non-participants to determine whether there were significant differences for each of the first four nulls. A *t*-test was utilized for each of these nulls since this test determines whether there were significant differences between two groups on one dependent variable.

H₀5 and H₀6 examined whether the number of extracurricular activities students participated in, as well as gender, free and reduced lunch status, attendance, and discipline, served as a predictor for language arts and mathematics standardized testing performance. A multiple regression test was utilized for both of these nulls since it sought to determine whether multiple factors served as predictors of one criterion variable. This test also provided quantitative data on the impact each variable had on the criterion variable by giving a value for the standardized partial regression coefficient. These values gave predicted levels of change within the academic performance score while holding all other variables constant. This determined which variable had the largest predicted impact on the academic performance score.

Summary

The importance of educating all students has become a pressing issue now more than ever. This study examined the differences that may occur in grade point averages and standardized reading and math assessment among students who participate in extracurricular activities and those who choose not to participate. This study provided quantitative data on any differences that extracurricular activities make regarding student achievement.

CHAPTER 4

DATA ANALYSIS

Chapter 4 is divided into eight sections: presentation of the study sample, hypotheses testing, standardized language arts assessment results, standardized math assessment results, attendance results based on extracurricular activities, predictors for standardized language arts assessment, predictors for standardized math assessment, and summary. The presentation of the study sample gives a detailed description of the sample. The null hypotheses section contains the nulls that were generated from the research questions. The standardized language arts assessment results based on extracurricular participation gives the standardized language arts scores of those who chose to participate in extracurricular activities. The standardized math assessment results based on extracurricular participation gives the standardized math scores of those who chose to participate in extracurricular activities. The attendance results based on extracurricular participation gives the attendance of those who chose to participate in extracurricular activities. The predictors for standardized language arts discuss the variables that shown to be predictors of success on standardized language arts tests. The predictors for standardized math discuss the variables that shown to be predictors of success on standardized math tests. Finally, the summary details the significance of each research question.

Research Questions

1. Is there a significant difference between extracurricular participants and non-participants in language arts standardized testing performance?
2. Is there a significant difference between extracurricular participants and non-participants in mathematics standardized testing performance?
3. Is there a significant difference between extracurricular participants and non-participants on the number of days not in attendance?
4. Is there a significant difference between extracurricular participants and non-participants on the number of student discipline contacts?
5. Is extracurricular participation, attendance rate, gender, free and reduced lunch status and/or the number of discipline contacts a predictor of language arts standardized testing performance?
6. Is extracurricular participation, attendance rate, gender, free and reduced lunch status and/or the number of discipline contacts a predictor of mathematics standardized testing performance?

Presentation of the Study Sample

Data for this study were collected from rural schools in the state of Indiana which housed 7-12 buildings. All 7-12 high schools within the state with fewer than 750 students were asked to participate within the study. Seven schools returned data within the allotted time given. Of the seven schools, one school district failed to produce data which was usable within the scope of this study, as raw test scores were missing from this school. The data from this school were discarded from the study. From the six schools with acceptable data, there were 419 students within this study.

Of the 419 students, 169 were eighth graders (40.3%) and 250 were 10th graders (59.7%). Due to having a different metric used by each grade for standardized assessment data for language arts and mathematics, the raw scores were transformed into z -scores with a mean of zero and standard deviation of 1.00. This allowed for this study to make comparisons of the whole group of students within the nulls being tested. Of the 169 eighth grade students within the study, the mean number of days missed was 5.33 ($SD = 2.02$) and mean number of discipline contacts was 2.02 ($SD = 3.90$). Of the 250 10th grade students within the study, the mean number of days missed was 5.73 ($SD = 5.39$) and mean number of discipline contacts was 1.29 ($SD = 3.02$). The eighth grade students attended more school on average than the 10th grade students, but at the same time the eighth grade students also had more discipline contacts on average than their 10th grade counterparts.

Within the study, 150 students were free/reduced lunch status (35.8%) and the remaining 269 were full-pay (64.2%). The mean language arts standardized assessment z -score for free/reduced lunch students was $-.18$ ($SD = 1.02$) and full-pay lunch students was $.16$ ($SD = .97$). The mean mathematics standardized assessment z -score for free/reduced lunch students was $-.26$ ($SD = .99$) and full-pay lunch students was $.14$ ($SD = .98$). The mean number of days missed by free/reduced lunch students was 7.05 ($SD = 5.55$) and for full-pay lunch students the mean number of days missed was 4.74 ($SD = 4.64$). The mean number of discipline contacts for free/reduced lunch students was 2.60 ($SD = 4.15$) and for full-pay lunch students the mean number of discipline contacts was 1.02 ($SD = 2.78$). This descriptive data matches the research presently on free/reduced lunch students when compared to their full-pay lunch counterparts. Within this study, free/reduced lunch students had lower standardized assessment scores, missed more days of school and had more discipline contacts than the full-pay lunch students.

Within this study, there were 208 boys (49.6%), 210 were girls (50.1%), and one (.002%) was unidentified within the data. The mean language arts standardized assessment score for boys was $-.11$ ($SD = 1.01$) and girls had a mean score of $.16$ ($SD = .97$). The mean mathematics standardized assessment score for boys was $-.04$ ($SD = 1.01$) and girls had a mean score of $.04$ ($SD = .99$). The mean number of days missed by boys in this study was 5.51 ($SD = 5.05$) and girls was 5.63 ($SD = 5.17$). The mean number of discipline contacts by boys in this study was 2.19 ($SD = 3.79$) and girls was $.99$ ($SD = 2.89$). As evidenced by the descriptive data above, girls scored higher on standardized assessments for both language arts and mathematics, had fewer discipline problems, but missed slightly more school.

Within this study, 164 of the students chose not to participate in an extracurricular activity (39.1%), and 255 of the students in this study chose to participate in at least one extracurricular activity (60.9%). Extracurricular participants had a mean language arts standardized assessment score of $.24$ ($SD = .98$), whereas the non-participants had a mean score of $-.24$ ($SD = .96$). Extracurricular participants had a mean mathematics standardized assessment score of $.23$ ($SD = .95$), whereas the non-participants had a mean score of $-.34$ ($SD = .98$). On average, extracurricular participants missed 4.97 days ($SD = 4.68$), whereas non-participants missed an average of 6.49 days ($SD = 5.58$). Extracurricular participants, on average, had 1.03 discipline contacts ($SD = 2.80$), whereas non-participants averaged 2.45 discipline contacts ($SD = 4.05$). As evidenced by the descriptive data above, extracurricular participants scored higher on standardized assessments, missed fewer days, and had fewer discipline contacts than the non-participants. Whether these differences are true or due to chance will be determined in the hypotheses testing section later.

Examining the students in the study through lunch status and extracurricular participation, 76 of the non-participants were full-pay lunch status (28.3%) and 193 of the participants were full-pay lunch status (71.7%). A total of 88 of the non-participants were free/reduced lunch status (58.7%) and the remaining 62 students who participated were free/reduced lunch status pay (41.3%). Free/reduced lunch students who were non-participants ($M = -.35$, $SD = 1.07$) and full-pay non-participants ($M = -.11$, $SD = .80$) scored lower on language arts standardized assessments than the extracurricular participants, with free/reduced scoring ($M = .07$, $SD = .89$) and full-pay students scoring ($M = .30$, $SD = 1.01$). Free/reduced lunch students who were non-participants ($M = -.45$, $SD = 1.01$) and full-pay students who were non-participants ($M = -.21$, $SD = .93$) scored lower on mathematics standardized assessments than the extracurricular participants, with free/reduced lunch students scoring ($M = .04$, $SD = .89$) and full-pay lunch students scoring ($M = .29$, $SD = .96$). Free/reduced ($M = 7.44$, $SD = 6.15$) and full-pay lunch ($M = 5.39$, $SD = 4.65$) non-participants missed more days on average than the free/reduced ($M = 6.48$, $SD = 4.56$) and full-pay lunch students ($M = 4.48$, $SD = 4.63$) who were participants. Free/reduced ($M = 3.49$, $SD = 4.85$) and full-pay lunch students ($M = 1.24$, $SD = 2.38$) who were non-participants had more discipline contacts on average than the free/reduced ($M = 1.34$, $SD = 2.39$) and full-pay lunch students ($M = .93$, $SD = 2.92$) who were participants. As evident in the descriptive data, participation, when broken down by lunch status, also demonstrated that participants scored higher on standardized assessments, missed fewer days of school, and had fewer discipline contacts.

Examining the students in the study through gender and extracurricular participation, 71 of the non-participants were girls (33.8%) and 139 of the participants were girls (66.2%). There were 92 non-participants boys (44.2%) and the remaining 116 of the participants were boys

(55.8%). Female non-participants ($M = -.09$, $SD = 1.00$) and male non-participants ($M = -.36$, $SD = .89$) scored lower on language arts standardized assessments than the extracurricular participants, with girls scoring ($M = .33$, $SD = .92$) and boys scoring ($M = .12$, $SD = 1.05$). Female non-participants ($M = -.39$, $SD = .98$) and male non-participants ($M = -.29$, $SD = .98$) scored lower on mathematics standardized assessments than the extracurricular participants, with girls scoring ($M = .27$, $SD = .91$) and boys scoring ($M = .18$, $SD = .99$). Female ($M = 6.58$, $SD = 6.04$) and male ($M = 6.47$, $SD = 5.26$) non-participants missed more days on average than the female ($M = 5.15$, $SD = 4.62$) and male ($M = 4.76$, $SD = 4.77$) participants. Female ($M = 1.34$, $SD = 2.37$) and male ($M = 3.40$, $SD = 4.79$) non-participants had more discipline contacts on average than the female ($M = .86$, $SD = 3.12$) and male ($M = 1.23$, $SD = 2.37$) participants. As evident in the descriptive data above, participation when broken down by gender also demonstrated that participants scored higher on standardized assessments, missed fewer days of school, and had fewer discipline contacts.

Hypothesis Testing

The following null hypotheses were generated from the research questions:

H₀1. There is no significant difference between extracurricular participants and non-participants on language arts standardized testing performance.

H₀2. There is no significant difference between extracurricular participants and non-participants on mathematics standardized testing performance.

H₀3. There is no significant difference between extracurricular participants and non-participants on the number of days not in attendance.

H₀4. There is no significant difference between extracurricular participants and non-participants on the number of student discipline contacts.

H₀5. Extracurricular participation, attendance rate, gender, lunch status and the number of discipline contacts cannot predict language arts standardized testing performance.

H₀6. Extracurricular participation, attendance rate, gender, lunch status and the number of discipline contacts cannot predict mathematics standardized testing performance.

Standardized Language Arts Assessment Results Based on Extra-Curricular Participation

It was important to determine whether the students being served in rural 7-12 high schools followed the same pattern found in the research, where students who choose to participate in extra-curricular activities scored higher than non-participants. For H₀1 there was no violation of assumption of independence because the dependent variable language arts score was free to vary and independent of other scores. There was no evidence of a violation of the assumption of normality with skew (-.188) and kurtosis (.847) falling between the generally accepted range of +1 and -1. For the assumption of homogeneity of variance, there was no evidence of a violation due to a non-significant result on a Levene's Test for Equality of Variances with $F = .024, p = .870$. For H₀1 there was no evidence of any violation of the assumptions associated with an independent samples *t*-test.

Extracurricular participants ($M = .24, SD = .98$) scored significantly higher on their standardized language arts assessment than non-participants ($M = -.24, SD = .96$) with $t(1, 310) = 4.311, p < .001$, two-tailed. As evident, based on the inferential test output, extracurricular participants scored significantly better than their non-participant counterparts on standardized language arts assessments. This outcome provided evidence that the trend found in the research, where extracurricular participants outperformed non-participants in standardized testing results, continued to be relevant even in small rural 7-12 high schools.

Standardized Mathematics Assessment Results Based on Extra-Curricular Participation

It was important to determine whether the students being served in rural 7-12 high schools followed the same pattern found in the research, where students who choose to participate in extra-curricular activities scored higher than non-participants on standardized assessments. For H_02 , there was no violation of assumption of independence because the dependent variable mathematics score was free to vary and independent of other scores. There is no evidence of a violation of the assumption of normality with skew (-.291) and kurtosis (.685) falling within the acceptable ranges of $+1/-1$. There is no evidence of a violation of the assumption of homogeneity of variance with a non-significant Levene's Test for Equality of Variances with $F = .133, p = .715$. For H_01 , there was no evidence of any violation of the assumptions associated with an independent samples t -test.

The inferential output for H_02 showed that extracurricular participants ($M = .23, SD = .95$) scored significantly higher on their standardized mathematics assessment than non-participants ($M = -.34, SD = .98$) with $t(1, 367) = 5.599, p < .001$, two-tailed. As evident in the independent samples t -test output, extracurricular participants scored significantly better than their non-participant counterparts on standardized mathematics assessments. This outcome provided evidence that the trend found in the research—where extracurricular participants outperform non-participants in standardized testing results—continued to be relevant even in small rural 7-12 high schools.

Attendance Results Based on Extra-Curricular Participation

It was important to determine whether the students being served in rural 7-12 high schools followed the same pattern found in the research, where students who choose to participate in extra-curricular activities missed fewer days of school than non-participants. For

H₀3, there was no violation of assumption of independence because the dependent variable attendance was free to vary and independent of each other. There was evidence of a violation of the assumption of normality with skew (1.856) and kurtosis (5.410) both falling outside the +1 or -1 threshold. A Kolmogorov-Smirnov test was then run to double check the assumption of normality. This test demonstrated a violation of the assumption of normality with a significant $p < .000$. Due to the violation, a decision was made to utilize a non-parametric version of an independent samples t -test (Mann-Whitney U test) to check for significant differences.

A Mann-Whitney U test revealed the non-extracurricular participants ($M = 6.49$, $SD = 5.58$) missed significantly more days than extracurricular participants ($M = 4.97$, $SD = 4.68$) with a $z = 3.06$, $p = .002$, two-tailed. As evident by the output, extracurricular participants received significant more days of instruction than their non-participant counterparts. This outcome provided evidence that the trend found in the research—where extracurricular participants attended more days of instruction than non-participants—continued to be relevant even in small rural 7-12 high schools.

Attendance Results Based on Extra-Curricular Participation

It was important to determine whether the students being served in rural 7-12 high schools followed the same pattern found in the research, where students who chose to participate in extra-curricular activities had fewer discipline contacts than non-participants. For H₀4, there was no violation of assumption of independence because the dependent variable discipline contacts was free to vary and independent of each other. There was evidence of a violation of the assumption of normality with skew (3.759) and kurtosis (19.218) both falling outside the +1 or -1 threshold. A Kolmogorov-Smirnov test was then run to double check the assumption of normality. This test demonstrated a violation of the assumption of normality with a significant p

< .000. Due to the violation, the decision was made to utilize a non-parametric version of an independent samples *t*-test (Mann-Whitney *U* test) to check for significant differences.

A Mann-Whitney *U* test revealed the non-extracurricular participants ($M = 2.45$, $SD = 4.05$) had significantly more discipline contacts than extracurricular participants ($M = 1.03$, $SD = 2.80$) with a $z = 5.35$, $p < .000$, two-tailed. As evident by the output, extracurricular participants received significant more days of instruction than their non-participant counterparts. This outcome provided evidence that the trend found in the research, where extracurricular participants have fewer discipline problems than non-participants continued to be relevant even in small rural 7-12 high schools.

Predictors for Standardized Language Arts Assessments

The fifth research question examined whether the following variables served as predictors of standardized language arts assessments: attendance, discipline contacts, extracurricular participation levels, gender, and lunch status. For H_{05} , it was important to examine the assumptions that go with multiple regression. Examinations of the residual scatterplots were used for the assumptions of independence, linearity, normality, and homoscedasticity. These scatterplots predicted values of the criterion variable and the standardized residuals or prediction errors. Multicollinearity was tested through examination of the tolerance levels.

For the assumption of independence, the residuals are free to vary. For this null, there was no systematic pattern of the residuals scatterplot. This indicated no indication of a violation of the assumption of independence. For the assumption of normality, there was no indication of a violation of normality as the points of the residuals scatterplots were evenly distributed above and below the line defined by $\hat{\epsilon}_i = 0$. For the assumption of homoscedasticity, there was no

indication of a violation of the assumption of homoscedasticity as the points on the residuals scatterplots were evenly distributed above and below the line defined by $\hat{\epsilon}_i = 0$. There appeared to be no widening or shrinking of the residual distances from the line as one moved from left to right on the line. For the assumption of linearity, it was evident that there was no violation of the assumption of linearity as the residual scatterplots had points in the plot which formed a relatively straight line. The scatterplots examined looked like a rectangle in nature. For the assumption of no multicollinearity, there was no evidence of a violation of assumption of multicollinearity as tolerance levels on each of the independent variables were above the suggested .20 level. For this null, the tolerance levels of the independent variable ranged from .905 to .945 (Table 6). These levels were well above the .20 suggested level.

Table 6

Tolerance Levels for Possible Predictors of Standardized Language Arts Assessment Scores

Lunch Status	Attendance	Discipline	Gender	Extracurricular participation level
.913	.945	.909	.920	.905

For H_05 , R is the correlation coefficient (.360) that looks at the relationship between variables. This represents a moderate correlation. R^2 is the coefficient of multiple determination (.130) which looked at the amount of variance in the criterion variable that can be explained by the predictor variables. This meant 13.0% of the variance in language arts assessment scores can be explained by the predictors. After adjustment for sample size and number of predictors, the amount of variance that can be explained in language arts assessment scores was reduced to 11.5%. Adjusted R^2 is the adjusted coefficient of multiple determination (.115) which looked at

the amount of variance in criterion variable that can be explained by predictor variables when adjusted for the number of predictors and sample size (Table 7).

Table 7

Model Summary Statistics for Criterion Variable (Language Arts Assessment Scores)

Criterion Variable	<i>R</i>	<i>R</i> ²	Adjusted <i>R</i> ²	Shrinkage	<i>SE</i> of the Estimate
Mathematics Assessments	.360	.130	.115	.015	.938

The ANOVA was significant, $F(5, 305) = 9.076, p < .001$, thus showing a linear relationship between at least one predictor and the criterion variable. This multiple regression revealed that the predictors, extracurricular participation level and number of discipline contacts, were significant predictors of standardized language arts assessment scores. Extracurricular participation level with $t(5,305) = 4.337, p < .001$ and number of discipline contacts with $t(5,305) = -2.77, p = .006$ were predictor variables that served as predictors for the criterion variable of standardized language arts assessment scores.

The unstandardized coefficients for extracurricular participation levels indicated that for each extracurricular activity a student participated in, holding all other predictors constant, the predicted value for the standardized language arts assessment score was expected to increase by .177. The unstandardized coefficients for the number of discipline contacts indicated that for each additional discipline contact, holding all other variables constant, would result in a decrease in the predicted value of the standardized language arts assessment score by .043. Through the use of *z*-scores, the standardized partial regression coefficients (β weight) for each of the predictor variables demonstrated the impact of each variable on standardized language arts

assessment scores. With standardized partial regression coefficients for extracurricular participation (.244) and number of discipline contacts (-.155), it was evident that extracurricular participation had the largest impact on standardized language arts assessment scores (Table 8).

Table 8

Unstandardized and Standardized Partial Regression Coefficients for Language Arts Assessment Scores

Predictor Variables	B	SE	β	<i>t</i>	Sig.
Attendance	.004	.011	.019	.342	.733
Discipline	-.043	.015	-.155	-2.772	.006
Extracurricular Participation Level	.177	.041	.244	4.337	.000
Gender	.103	.111	.051	.925	.356
Lunch Status	.205	.114	.100	1.794	.074

Predictors for Standardized Mathematics Assessments

The sixth research question sought to examine whether the following variables served as predictors of standardized mathematics assessments: attendance, discipline contacts, extracurricular participation levels, gender, and lunch status. For H₀₆, it was important to examine the assumptions that go with multiple regression. Examinations of the residual scatterplots were used for the assumptions of independence, linearity, normality, and homoscedasticity. These scatterplots looked at the predicted values of the criterion variable and the standardized residuals or prediction errors. Multi-collinearity was tested through examination of the tolerance levels.

For the assumption of independence, the residuals are free to vary. For this null, there was no systematic pattern of the residuals scatterplot. This indicated no indication of a violation of the assumption of independence. For the assumption of normality, there was no indication of a violation of normality as the points of the residuals scatterplots were evenly distributed above and below the line defined by $\hat{\epsilon}_i = 0$. For the assumption of homoscedasticity, there was no indication of a violation of the assumption of homoscedasticity as the points on the residuals scatterplots were evenly distributed above and below the line defined by $\hat{\epsilon}_i = 0$. There appeared to be no widening or shrinking of the residual distances from the line as one moved from left to right on the line. For the assumption of linearity, it was evident that there was no violation of the assumption of linearity as the residual scatterplots had points in the plot which formed a relatively straight line. The scatterplots examined were rectangle-like in nature. For the assumption of no multicollinearity, there was no evidence of a violation of assumption of multicollinearity as tolerance levels on each of the independent variables are above the suggested .20 level. For this null, the tolerance levels of the independent variable ranged from .851 to .931 (Table 9). These levels were greatly above the .20 suggested level.

Table 9

Tolerance Levels for Possible Predictors of Standardized Mathematics Assessment Scores

Lunch Status	Attendance	Discipline	Gender	Extracurricular Participation Level
.851	.908	.931	.917	.858

For H_06 , R was the correlation coefficient (.378) that looked at the relationship between variables. This represents a moderate correlation. R^2 was the coefficient of multiple determination (.143) which looked at the amount of variance in the criterion variable that could

be explained by the predictor variables. This meant 14.3% of the variance in math assessment scores can be explained by the predictors. After adjustment for sample size and number of predictors, the amount of variance that can be explained in math assessment scores is reduced to 13.1%. Adjusted R^2 is the adjusted coefficient of multiple determination (.131) which looked at the amount of variance n criterion variable that could be explained by predictor variables when adjusted for the number of predictors and sample size (Table 10).

Table 10

Model Summary Statistics for Criterion Variable (Language Arts Assessment Scores)

Criterion Variable	R	R^2	Adjusted R^2	Shrinkage	SE of the Estimate
Mathematics Assessments	.378	.143	.131	.012	.931

The ANOVA was significant, $F(5, 362) = 12.036, p < .001$, thus showing a linear relationship between the predictors and the criterion variable. This multiple regression revealed that the predictors, extracurricular participation level, and number of discipline contacts were significant predictors of standardized mathematics assessment scores. Extracurricular participation level with $t(5,362) = 5.099, p < .001$ and number of discipline contacts with $t(5,362) = -3.330, p < .001$ were the predictor variables that served as predictors for the criterion variable of standardized mathematics assessment scores.

The unstandardized coefficients for extracurricular participation levels indicated that for each extracurricular activity a student participated in, holding all other predictors constant, the predicted value for the standardized language arts assessment score was expected to increase by .199. The unstandardized coefficients for the number of discipline contacts indicated that for

each additional discipline contact, holding all other variables constant would result in a decrease in the predicted value of the standardized language arts assessment score by .047. Through the use of z -scores, the standardized partial regression coefficients (β weight) for each of the predictor variables demonstrate the impact of each variable on standardized language arts assessment scores. With standardized partial regression coefficients for extracurricular participation (.268) and number of discipline contacts (-.169), it was evident that extracurricular participation had the largest impact on standardized mathematics assessment scores (Table 11).

Table 11

Unstandardized and Standardized Partial Regression Coefficients for Mathematics Assessment Scores

Predictor Variables	B	SE	β	t	Sig.
Attendance	-.011	.010	-.059	-1.154	.249
Discipline	-.047	.014	-.169	-3.330	.001
Extracurricular Participation Level	.199	.039	.268	5.099	.000
Gender	-.082	.101	-.041	-.813	.416
Lunch Status	.145	.110	.069	1.311	.191

Summary

Research Question 1 demonstrated that there was a significant difference between extracurricular participants and non-participants in language arts standardized testing performance. Research Question 2 demonstrated there was a significant difference between extracurricular participants and non-participants in mathematics standardized testing performance. Research Question 3 demonstrated there was a significant difference between

extracurricular participants and non-participants on the number of days not in attendance.

Research Question 4 demonstrated there was a significant difference between extracurricular participants and non-participants on the number of student discipline contacts.

Research Question 5 showed that extracurricular participation, attendance rate, and number of discipline contacts were significant predictors for language arts standardized assessment scores. Gender and lunch status were not significant predictors of language arts standardized testing performance. Research Question 6 showed that extracurricular participation, attendance rate, and number of discipline contacts were significant predictors for mathematics standardized assessment scores. Gender and lunch status were not significant predictors of mathematics standardized testing performance.

CHAPTER 5

SUMMARY, RESULTS, DISCUSSION, CONCLUSION, AND RECOMMENDATIONS FOR FUTURE STUDY

The final chapter of this study is divided into five sections: summary, results, discussion, conclusions, and recommendations for further research. The summary addresses the purpose of the study, why extracurricular activities were chosen as a framework for this study, and who benefits from the study. The results provide a summary of the data that were previously presented in Chapter 4. The discussion interprets the results while linking them to the extracurricular activities and other predictors of academic success. The conclusions provide insight into what needs to be done in order to preserve extracurricular programs during this time of limited budgets and focus on other predictors of academic success. Finally, the recommendations for further study provide suggestions on additional research that could enhance the current study.

The study involved students who were served in rural secondary buildings from public, non-charter, schools in the state of Indiana that had students enrolled in Grades 7-12 with an enrollment under 750 students. Students in Grades 8 and 10 were the focus of this study since these grades are tested by standardized testing in the state. Seventh graders were not included in this study due to the possible impact of transitioning from the elementary school that often occurs.

Summary

The purpose of this study was two-fold in nature. First, this study sought to identify whether extracurricular participation for students in a rural, Grades 7-12 building created significant differences when examining academic performance, attendance, gender, lunch status, and student discipline compared to their non-participant peers. Secondly, this study examined the impact extracurricular participation, attendance, gender, lunch status, and discipline has on academic performance for rural students. These three factors were then compared to determine the overall rank-order of impact on academic performance.

This study was conducted to investigate the following questions:

1. Is there a significant difference between extracurricular participants and non-participants in language arts standardized testing performance?
2. Is there a significant difference between extracurricular participants and non-participants in mathematics standardized testing performance?
3. Is there a significant difference between extracurricular participants and non-participants on the number of days not in attendance?
4. Is there a significant difference between extracurricular participants and non-participants on the number of student discipline contacts?
5. Is extracurricular participation, attendance rate, gender, free and reduced lunch status and/or the number of discipline contacts a predictor of language arts standardized testing performance?
6. Is extracurricular participation, attendance rate, gender, free and reduced lunch status and/or the number of discipline contacts a predictor of mathematics standardized testing performance?

This study has the potential to be a powerful tool for educational leaders who are making difficult budgetary decisions for their corporation. The research found in Chapter 2 supports the data that were gathered from the eighth and 10th graders of public, Indiana rural schools. The study links extracurricular activities and discipline to student achievement data. Through this study, superintendents, principals, and teachers are provided evidence of higher performance for those students involved in extracurricular activities. Ultimately, this study's main purpose was to provide evidence of the importance of extracurricular activities for schools.

Results

The findings of this study were presented in the previous Chapter 4. The study centered on the following nulls that were tested relating extracurricular activities, discipline, lunch status, gender, and attendance as academic predictors.

1. There is no significant difference between extracurricular participants and non-participants on language arts standardized testing performance.
2. There is no significant difference between extracurricular participants and non-participants on mathematics standardized testing performance.
3. There is no significant difference between extracurricular participants and non-participants on the number of days not in attendance.
4. There is no significant difference between extracurricular participants and non-participants on the number of student discipline contacts.
5. Extracurricular participation, attendance rate, gender, free and reduced lunch status and the number of discipline contacts cannot predict language arts standardized testing performance.

6. Extracurricular participation, attendance rate, gender, free and reduced lunch status and the number of discipline contacts cannot predict mathematics standardized testing performance.

The first null in this study was rejected. There was no significant difference between extracurricular participants and non-participants on language arts standardized testing performance. The findings of the first null demonstrated a significant difference between extracurricular participants and non-participants in language arts standardized testing performance. Extracurricular activity participants scored a higher level of significance than non-participants. This finding supports Kelstrom (1998), who found that music instruction actually enhances student achievement in areas outside music. It is believed that music develops critical thinking skills and improves skills in reading, writing, and math.

The second null in this study was rejected. There was no significant difference between extracurricular participants and non-participants on mathematics standardized testing performance. The findings of null 2 demonstrated a significant difference between extracurricular participants and non-participants in mathematics standardized testing performance. Extracurricular activity participants scored a higher level of significance than non-participants. This finding also supports Gould and Weiss (1987), Kelstrom (1998), Marsh and Kleitman (2003), and McNeal's (1995) research, which stated sports participation has been linked to lower likelihood of school dropout and higher rates of college attendance, particularly for low achieving and blue-collar male athletes. Participating in extracurricular activities is associated with positive development including school achievement and educational attainment.

The third null in this study was rejected. There was no significant difference between extracurricular participants and non-participants on the number of days not in attendance. The

findings of null 3 demonstrated a significant difference between extracurricular participants and non-participants on the number of days not in attendance. Extracurricular activity participants were in attendance a significant number of days more than non-participants. This finding mirrors the results of the NCES (1995), which reported it is clear that participation and success are strongly associated as evidenced by participants' better attendance, higher levels of achievement, and aspirations to higher levels of education.

The fourth null in this study was rejected. There was no significant difference between extracurricular participants and non-participants on the number of student discipline contacts. The findings of null 4 demonstrated a significant difference between extracurricular participants and non-participants on the number of student discipline contacts. Extracurricular activity participants received significantly less discipline contacts than non-participants. This finding mirrored the results of Sebald (2010), as he found that students who participated in extracurricular activities reported doing things that were important which kept them from being involved in problem behavior.

The findings of null 5 showed that extracurricular participation rate and number of discipline contacts were significant predictors for language arts standardized assessment scores. Extracurricular participation, attendance rate, gender, free and reduced lunch status, and the number of discipline contacts cannot predict language arts standardized testing performance. Gender, attendance, and lunch status did not serve as significant predictors of language arts standardized testing performance. These results are presented in Table 12.

Table 12

Results of the Predictor Variables for Language Arts

Predictor Variables	B	SE	β	<i>t</i>	Sig.
Attendance	-.011	.010	-.059	-1.154	.249
Discipline	-.047	.014	-.169	-3.330	.001
Extracurricular Participation Level	.199	.039	.268	5.099	.000
Gender	-.082	.101	-.041	-.813	.416
Lunch Status	.145	.110	.069	1.311	.191

The findings of null 6 showed that extracurricular participation and number of discipline contacts were significant predictors for mathematics standardized assessment scores.

Extracurricular participation, attendance rate, gender, free and reduced lunch status, and the number of discipline contacts cannot predict mathematics standardized testing performance.

Gender, attendance, and lunch status did not serve as significant predictors of mathematics standardized testing performance (Table 13).

Table 13

Results of the Predictor Variables for Math

Predictor Variables	B	SE	β	<i>t</i>	Sig.
Attendance	-.011	.010	-.059	-1.154	.249
Discipline	-.047	.014	-.169	-3.330	.001
Extracurricular Participation Level	.199	.039	.268	5.099	.000
Gender	-.082	.101	-.041	-.813	.416
Lunch Status	.145	.110	.069	1.311	.191

Discussion

In this study, extracurricular activities were found to have a significant impact on academic performance. Unlike many of the previous studies, this research included more than athletics. Included in this research was any school activity outside of the core academic day. Stephens and Schaben (2002) stated band, choir, drama, academic teams, Future Farmers of America (FFA), thespians, debate, yearbook, newspaper, and athletics impact academic performance. It was found that any and all extracurricular activities are significant predictors of academic achievement. Participation in at least one extracurricular activity, as cited in nulls 1, 2, 5, and 6, has a significant impact on academic performance.

The data in this study shows a difference in language arts and math standardized testing performance between those who chose to participate in extracurricular activities and those who chose not to participate in extracurricular activities. Positive peer influence and parental support in multiple settings and in the reinforcement of basic curriculum requirements in order to participate is believed to add student focus, thus improving academic achievement.

When a student is part of a group or team, common goals are set from the very beginning on what accomplishments are to be attained. Student learns that they have a role that comes together with others in order to be successful. Hollrah (1999) discussed how participant have different responsibilities they are held accountable for, not only by the sponsor or coach, but by all of their teammates and classmates. When students have a vested interest and know that others are counting on them and encouraging them, positive peer pressure is the result. This positive peer pressure carries over to academics. Students learn that they must remain eligible by maintaining a minimum level of grades and not let their teammates and classmates down by having someone else perform their assignments or tasks. Schools often calculate grade point average by sports team and award the highest.

Parental support in multiple settings plays a key role on the impact of extracurricular activities. Nauer et al. (2008) stated that problems at home prevent students from attending school regularly, and for students who have supportive parents at home to be high achieving. These parents set high standards academically and socially for their children. This study, by way of the broad definition of extracurricular activities, recognizes those students who participate but may not have a higher level of support at home. Involved parents support the entire team, group, or cast. Many students thrive on encouragement from parents other than their own. One must not underestimate what a few kind words can do. Extracurricular activities give a chance for students to demonstrate success to parents and develop a bond.

The reinforcement of basic curriculum requirements to participation time adds focus and sets minimum expectations. Students tend to rise to the level of expectation. If the level of expectation is established that equates into playing time, participation, or inclusion, then motivation exists to achieve these minimum academic expectations. This results in a higher

level of focus from the student which translates into academic success. Broh (2002) emphasized that participation in extracurricular activities have a broad range of positive impact. Participation in extracurricular activities in general, is associated with a higher grade point average, greater educational aspirations, increased college attendance, and reduced absenteeism.

This study found that there is a significant difference between extracurricular participants and non-participants on the number of days not in attendance. Students must attend school to practice and participate. A large factor is routine and setting structured expectations. Students develop a routine and find a level of comfort in their activities. This routine carries over from activities to academics. Students find their routine of studying established from the discipline and accountability learned from being part of a team or group (Rombokas, 1995). When students establish good habits that become routine, they set their own expectations of what they want to achieve, be it a certain grade, level, or rank. If students are not present, then it is certain that they are not receiving instruction.

This study showed a significant difference between extracurricular participants and non-participants on the number of student discipline contacts made by school administrators. A team atmosphere sets the rules and adds accountability. This is reinforced again through positive peer pressure, parental support, and coaching expectations. When a student develops through the team setting, a feeling of responsibility beyond ones self-interest becomes evident. This allows students to become more accountable for their own actions and expect consequences in either game playing time or practice punishments. This rolls over to the classroom and expands the lines of the game beyond the playing field and into the players' lives. Coaches and sponsors provide an extra check and support system. They reinforce positive discipline, teamwork, and other factors that contribute to social and academic success (Bauer & Liang, 2003).

This research showed that extracurricular participation and number of discipline contacts were significant predictors for standardized assessment scores. Gender, attendance, and lunch status were not significant predictors of standardized testing performance. I believe lunch status was non-significant due to the sample being taken from predominantly White students in rural buildings. Previous research, TUSC (1998), included urban minority students. Gender and attendance are likely due, in part, to academic skill gap prevention through higher attendance, and classroom attention becomes evident. A student can be in attendance and focused during class, not disrupting others, or distracting through behavior. However, it must be noted that being present at school and sitting in class does not, in any way, guarantee that the student is engaged. Prior to the research conducted in this study, attendance was highly regarded as a possible predictor for academic success by those in the higher education community. Attendance is a criterion for Indiana public schools when graded for Annual Yearly Progress (AYP). Though attendance has a high level of importance for young people to establish good habits as they mature and enter the workplace (Chang and Romero, 2008), it was not significant in predicting academic success in the 8th and 10th graders of rural Indiana. Although attendance is important, student attendance does not mean student engagement. A student being in a seat does not necessarily equate to learning

This study, as cited in nulls 1, 2, 5, and 6, showed that participation in just one extracurricular activity made a significant impact on academic achievement. This reinforces the belief that teachers, coaches, parents, grandparents, and all others must encourage all students to become involved. Becoming involved in extracurricular activities has shown higher academic achievement in language arts and math standardized test scores, while reducing the number of office discipline contacts. This study showed that just one office discipline contact can have a

negative impact on academic achievement. Mahoney and Cairns's (1997) research indicated that engagement in school extracurricular activities is linked to decreasing rates of early school dropouts in both boys and girls. They discovered that such participation provides average or below students an opportunity to create a positive and voluntary connection to their school, while decreasing deviant behavior. Schools must proactively move toward encouraging students to participate in at least one extracurricular activity each year.

It is believed that choosing to participate in any extracurricular activity, including band, choir, drama, speech, academic teams, athletics, or debate, leads to a higher level of engagement in the classroom. As a student becomes involved in an activity, the interest level or *buy-in* that occurs fosters a new sense of structure and discipline within that student. Student then feel more and more that they are part of something positive. This positive activity may be the first opportunity that students have had to be a part of something that is bigger than them. They take on a responsibility that is important, but only one of several responsibilities that have to come together and be performed at once or in sequence to achieve a certain goal or level. Rombokas (1995) pointed out that young people have the responsibility to the activity or organization and must perform the task or tasks assigned to them whether it is to jump, sing, act, or publicly speak. When students participate in extracurricular activities, they gain a sense of self-respect, self-esteem, and self-worth.

Student learn that others are counting on them to know and perform their responsibility while learning to count on others to perform theirs. Positive peer pressure serves as a form of accountability to help students stay engaged, grow, and learn. All the while, the responsible adult, who is the coach or sponsor, is there to lead students in a positive direction, motivate them

to achieve more than they thought was possible, correct their mistakes, and encourage them in times of triumph and struggle.

Fioriello (2009) said that when participating in activities, students get the chance of learning group and individual responsibilities, earning eligibility to participate by keeping a minimum grade point average, applying academic skills in actual world context, building physical stamina and patience, and having intrinsically well determined will, good self-esteem, and relationship abilities. These activities boost students' sense of attachment to their school and decrease the possibility of school failure.

As students become involved in extracurricular activities, the possibility of greater parent involvement and support exists. It starts with the parent dropping the students off for the activity or picking them up at the end of the day. Each time that parent or parents are physically on school grounds, it is positive. The time that is then spent in the vehicle to and from the activity is a time for students to share what their activities have been. This is an opportunity for the parent to show interest in their children's lives, and educate themselves about the activity that their children are participating in. This can also serve as a positive opportunity for the parent to reinforce the structure that the student is learning, being engaged in schoolwork, and responsibilities at home. Parents will have the opportunity of attending in person the games, play, concert, meet, or open house that is a culmination of the time and work that the student has devoted. It is believed that when parents collaborate with teachers, sponsors, or coaches, discipline and structure are reinforced and the students see the positive support that they have from many of the adults in their life. Also, it gives the opportunity to further build the relationship between parents and the school. The schools, according to Nauer et al. (2008), create welcoming places where children want to be and that parents respect and value.

The discipline and structure that is learned and reinforced through the participation in extracurricular activities can carry over to the classroom. Darling et al.'s (2005) results showed that the students who participated in school-based extracurricular activities had higher grades, higher academic aspirations, and more positive academic attitudes than those who were not involved in extracurricular activities at all.

The student finds enjoyment in the activity and develops a level of enthusiasm. Through the support of parents, coaches, sponsors, and teachers, the minimum level of academic expectation has been set as well. The student learns and understands that in order to participate in the desired activity; they must attain the minimum academic standard that has been established by the school and by their parents. The student learns that this starts with being in attendance at school. Participation in the desired activity is not possible if they are not in attendance. The student knows from the structure reinforced through the extracurricular activities and from their parents that proper behavior is an expectation. Discipline contacts with the office for inappropriate behavior can lead to nonparticipation in the desired activity. Coaches often have a zero tolerance policy towards discipline infractions. Sebald (2010) pointed out that students who participate in extracurricular activities report doing things that are important which keep them from being involved in problem behavior. It is believed that if a student is present at school, is motivated to exhibit appropriate behavior, and aspires to achieve a minimum academic standard, the student is likely to be engaged in the lesson at a higher level.

If students are engaged in the classroom at a higher level, the opportunity exists for those students to achieve a greater level of academic success. It is believed that those students who participate in extracurricular activities are likely to be engaged in the classroom at a higher level. Greater academic achievement then becomes a positive byproduct, if you will, of being involved

in extracurricular activities, learning structure and discipline, and being engaged in the classroom at a higher level (Elder & Conger, 2000). This study has the potential to be a powerful tool to educational leaders.

Elder and Conger (2000), Marsh and Kleitman (2002), and Youniss et al. (1999) reported participation in these extracurricular activities and service learning activities has also been linked to increases in interpersonal competence, self-concept, high school GPA, school engagement, and educational aspirations. They have also been linked to higher educational achievement, better job quality, more active participation in the political process and other types of volunteer activities, continued sport engagement, and better mental health during young adulthood.

In this time of history of tight budgets and large cutbacks, accountability of educational leaders and teachers has never been higher. Educational leaders are facing tough decisions. These decisions will have a huge impact on their students. They must base these important decisions on valid research. Educational leaders have to get the most out of every dollar that will lead to greater academic achievement in the classroom. The data presented in this study supports the sustainment of extracurricular programs. This study, as shown in nulls 1 and 2, shows that extracurricular activities are predictors of academic achievement. Nulls 5 and 6 show an increased participation in extracurricular activities and decreased discipline contacts lead to increased academic achievement.

Recommendations for Future Research

To further the findings of this study, I suggest that the sample be taken from an urban setting. This will give a comparison of extracurricular activities and discipline as predictors of academic achievement. In addition, this study could be conducted in suburban affluent communities where parental support is high and the percentage of free and reduced lunch is low.

It might also be helpful to follow-up with a study that includes non-public schools that are located in a variety of areas.

Another suggestion to further this study would be to use multiple years of data, not just a one-year snapshot. More ethnicity might be included as well. The sample for this study was taken from predominantly White, rural Indiana students. Adding urban minority students to the sample size could be considered. Future researchers may examine other indicators of achievement. The next study could look at student satisfaction based on surveys. Another possibility involves a qualitative portion by interviewing a number of stakeholders. Finally, a suggestion is to measure the engagement within schools and correlate with test scores to see any possible significance of impact on academic achievement.

Conclusion

This section focuses on the belief that extracurricular activities in school play a vital role in academic achievement. Educational leaders are experiencing tight budgets and are faced with tough decisions. Research shows that extracurricular activities are predictors of academic achievement and cannot be quickly dismissed as an easy budget cut. This study, as cited in nulls 1, 2, 5, and 6, showed that participation in just one extracurricular activity made a significant impact on academic achievement.

As stated earlier, Fioriello (2009) said that when participating in activities, students get the chance of learning group and individual responsibilities, earning eligibility to participate by keeping a minimum grade point average, applying academic skills in actual world context, building physical stamina and patience, and having intrinsically well determined will, good self-esteem, and relationship abilities. These activities boost a students' sense of attachment to their school and decrease the possibility of school failure.

Indiana Governor Mitch Daniels stated in November 2010, “Nothing’s more important for student achievement than having a first-rate teacher. Having an outstanding teacher, an effective teacher in each classroom, each year of their schooling” (Bradner, 2010, para. 6). In the same interview, Daniels said he believed the state could “avoid reducing K-12 education funding again” (Bradner, 2010, para. 12). After the state’s tax collection levels failed to meet projections, he ordered a \$300 million cut in education funding for the year 2011.

Tony Bennett, the Indiana State Superintendent of Public Instruction, said in the same interview that he and the governor were together on this issue (Bradner, 2010). He stated Indiana has a tremendous lead on many other states (Bradner, 2010). The National Education Association (NEA, 2010) ranked New Jersey, New York, and Vermont as three of the four highest states that fund public education with an average of \$16,100 per student. These three states also ranked among the top five states in math and science scores. Indiana ranked a respectable 11th in math and science, but was 28th in public school funding at \$10,037 per student (Indiana Department of Education [IDOE], 2011). This dollar amount is an average of the state funding. For example, Decatur County Community Schools, a rural corporation in southeast Indiana receives \$5,800 per student (IDOE, 2011). It must also be mentioned that this report was prior to Governor Daniels’s announcement of the \$300 million cut in public education funds. A cut in public educational funds will likely force educational leaders to cut extracurricular programs.

Nothing’s more important for student achievement than having a first-rate teacher stands contradictory to how the governor wants to fund education. If there is nothing more important, how can such a cut be justified? Education initiatives have been mandated in Indiana, full-day kindergarten for example, without being fully funded. Cutting education in Indiana is a short-

sighted approach. New Jersey, New York, and Vermont are the top funding education states, while being top-ranked in math and science. This presents a valid argument that adequate funding to education produces high academic achievement and increased funding produces higher quality of education. If Indiana wants to keep its best and brightest, it will not cut funding to education.

If funding continues to be cut, decisions made by educational leaders become even more difficult. For rural school buildings that provided the sample for this study, educational leaders will be forced to make decisions between keeping classroom teachers and sustaining extracurricular programs that research has shown to be a predictor of academic success. Impacting education leads to fewer businesses willing to settle in Indiana due to the lack of educated people to fill positions.

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APPENDIX A: SCHOOLS INVITED TO PARTICIPATE IN THE STUDY

Adams Central Jr. /Sr. High School
Argos Jr. /Sr. High School
Attica Jr. /Sr. High School
Austin Jr. /Sr. High School
Barr Reeve Jr. /Sr. High School
Blue River Valley Jr. /Sr. High School
Borden Jr. /Sr. High School
Bremen Jr. /Sr. High School
Cambridge City Jr. /Sr. High School
Cannelton Jr. /Sr. High School
Carroll Jr. /Sr. High School
Caston Jr. /Sr. High School
Clinton Central Jr. /Sr. High School
Clinton Prairie Jr. /Sr. High School
Cowan Jr. /Sr. High School
Crothersville Jr. /Sr. High School
Daleville Jr. /Sr. High School
Eminence Jr. /Sr. High School
Forest Park Jr. /Sr. High School
Fountain Central Jr. /Sr. High School
Medora Jr. /Sr. High School
Milan Jr. /Sr. High School
Monroe Central Jr. /Sr. High School
Morgan Township Jr. /Sr. High School
Morristown Jr. /Sr. High School
Muncie Burriss Jr. /Sr. High School
North Daviess Jr. /Sr. High School
North Miami Jr. /Sr. High School
North Vermillion Jr. /Sr. High School
Northeast Dubois Jr. /Sr. High School
Northeastern Jr. /Sr. High School
Northfield Jr. /Sr. High School
North Newton Jr. /Sr. High School
North Posey Jr. /Sr. High School
Oregon Davis Jr. /Sr. High School
Orleans Jr. /Sr. High School
Paoli Jr. /Sr. High School
Perry Central Jr. /Sr. High School

Pioneer Jr. /Sr. High School
Prairie Heights Jr. /Sr. High School
Randolph Southern Jr. /Sr. High School
River Forest Jr. /Sr. High School
Riverton Park Jr. /Sr. High School
Rochester Jr. /Sr. High School
Rockville Jr. /Sr. High School
Rossville Jr. /Sr. High School
Seeger Jr. /Sr. High School
Shakamak Jr. /Sr. High School
Sheridan Jr. /Sr. High School
Shoals Jr. /Sr. High School
Silver Creek Jr. /Sr. High School
South Central-Union Mills Jr. /Sr. High School
South Knox Jr. /Sr. High School
South Newton Jr. /Sr. High School
South Putnam Jr. /Sr. High School
South Ripley Jr. /Sr. High School
South Vermillion Jr. /Sr. High School
Southwestern Shelby Jr. /Sr. High School
Southwood Jr. /Sr. High School
Springs Valley Jr. /Sr. High School
Sullivan Jr. /Sr. High School
Tecumseh Jr. /Sr. High School
Tell City Jr. /Sr. High School
Triton Jr. /Sr. High School
Union Dugger Jr. /Sr. High School
Union City Jr. /Sr. High School
Waldron Jr. /Sr. High School
Wes-Del Jr. /Sr. High School
West Central Jr. /Sr. High School
Western Boone Jr. /Sr. High School
Westview Jr. /Sr. High School
Westville Jr. /Sr. High School
White River Valley Jr. /Sr. High School
Whiting Jr. /Sr. High School

APPENDIX B: INVITATION TO PARTICIPATE IN RESEARCH STUDY

You are invited to participate in a research study conducted by Michael Wilcox, who is a doctoral student from the Educational Leadership Department at Indiana State University. Mr. Wilcox is conducting this survey for his doctoral dissertation. Dr. Terry McDaniel is his faculty sponsor for this project.

Your participation in this study is entirely voluntary. Please read the information below and ask questions about anything that you do not understand, before deciding whether or not to participate. You are being asked to participate in this study because you are the educational leader in a public rural corporation that serves students in a grade 7 through 12 building.

Purpose of the study

This study seeks to identify whether extracurricular participation for students in a rural, grades 7-12 schools create significant differences when examining language arts or mathematics standardized testing performance, attendance, and student discipline compared to their non-participant peers. Second, this study will examine the impact extracurricular participation, attendance, gender, free and reduced lunch status, and discipline has on language arts and mathematics standardized testing performance for rural students. These five factors will then be compared to determine the overall rank-order of impact on testing performance for both areas. Students in grades 8 and 10 will be the focus of this study since these grades are among the students that are tested by standardized testing in the state.

Potential Benefits to Subjects and/or Society

Superintendents will receive the results from this study if they accept the invitation. It is anticipated that these results will be a powerful tool for education leaders. In this economical downtime in history, education leaders will have to make difficult budgetary decisions that may leave extracurricular activities in danger of being eliminated. This data could serve as a powerful tool that shows the positive impact that extracurricular activities have on academics.

Mr. Michael Wilcox
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APPENDIX C: CONSENT TO PARTICIPATE IN RESEARCH STUDY

You are invited to participate in a research study conducted by Michael Wilcox, who is a doctoral student from the Educational Leadership Department at Indiana State University. Mr. Wilcox is conducting this survey for his doctoral dissertation. Dr. Terry McDaniel is his faculty sponsor for this project.

Your participation in this study is entirely voluntary. You should read the information below and ask questions about anything that you do not understand, before deciding whether or not to participate. You are being asked to participate in this study because you are the educational leader in a public rural corporation that serves students in a grade 7 through 12 building.

Purpose of the study

The purpose of this study is two-fold in nature. First, this study seeks to identify whether extracurricular participation for students in a rural, grades 7-12 building creates significant differences when examining language arts or mathematics standardized testing performance, attendance, and student discipline compared to their non-participant peers. Secondly, this study will examine the impact extracurricular participation, attendance, gender, lunch status, and discipline has on language arts and mathematics standardized testing performance for rural students. These five factors will then be compared to determine the overall rank-order of impact on testing performance for both areas.

If you volunteer to participate in this study, we will ask you to do the following:

*Spreadsheet identifying needed data will be sent for the contact personnel identified by the superintendent to enter data. Students in grades 7th, 8th, and 10th will be the focus of this study since these grades are the only students that are tested by standardized testing in the state.

*Standardized testing scores for language arts and mathematics, number of extracurricular activities participated in, gender, lunch status, discipline, and attendance will be acquired from a request of data with an Excel™ spreadsheet to the personnel designated by the superintendent to gather the information from their school information system.

*Superintendents are encouraged to accept the invitation to participate in this study. Superintendents will receive the results from this study if they accept the invitation. A second letter will be sent if after two weeks a superintendent has not responded

*Student participation or nonparticipation in extracurricular activities, as well as the number of activities, will be obtained from the designated school personnel as well. Participation includes

athletics, music, academic teams, clubs, FFA, drama, or any other activity that falls outside the normal daily curriculum. Confidentiality will be of the highest priority. No student names will be used.

Potential Risks and Discomfort

We expect that any risks, discomforts, or inconveniences will be minor and we believe that they are unlikely to happen. If discomfort becomes a problem, you may discontinue your participation.

Potential Benefits to Subjects and/or Society

It is likely that you will benefit directly from this study. Superintendents will receive the results from this study if they accept the invitation. It is anticipated that these results will be a power tool for education leaders. In this economical downtime in history, education leaders will have to make difficult budgetary decisions that may leave extracurricular activities in danger of being eliminated. This data could serve as a powerful tool that shows the positive impact that extracurricular activities have on academics.

Payment for Participation

You will not receive any payment for participation in this study. Superintendents will receive the results from this study if they accept the invitation.

Participation and Withdrawal

You can choose whether or not to be in this study. If you volunteer to be in this study, you may withdrawal without consequences at any time. You may also refuse to submit any information that you do not want to submit. There is no penalty if you withdraw from the study, and you will not lose any benefits to which you are otherwise entitled. The researcher may withdraw you from the study if continued participation becomes detrimental in any way.

Identification of Investigators

If you have any questions about the research, please feel free to contact

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Rights as Research Subject

If you have any questions about your rights as a research subject, you may contact Indiana State University Institutional Review Board (IRB) by mail at Indiana State University, Office of Sponsored Programs, Terre Haute, IN 47809, by phone at (812) 237-8217, or email the IRB at irb@indstate.edu. You will be given the opportunity to discuss any questions about your rights as a research subject with a member of the IRB. The IRB is an independent committee composed of members of the University community, as well as members of the community not connected with ISU. The IRB has reviewed and approved this study.

I understand the procedures described. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

Printed name of subject _____

Signature of subject _____

Date _____

Indiana State University IRB

APPROVED

IRB Number _____

Approval _____

Expiration Date _____