

**EXTRACURRICULAR ACTIVITIES: AN EXAMINATION OF STUDENT
ACHIEVEMENT IN THE LEE'S SUMMIT SCHOOL DISTRICT**

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ABSTRACT

The purpose of this study had four components: first to determine whether a difference exists between the GPAs of extracurricular participants and non-participants; second to determine whether a difference exists between the GPA of participants in athletics and non-participants in athletics; third to determine whether a difference exists between the GPA of participants in co-curricular activities and non-participants in co-curricular activities; and fourth to determine whether a difference exists between the GPA of at least two of the following: participants in athletics, participants in co-curricular activities, or participants in both athletics and co-curricular activities. Additionally, the study determined if the difference in GPA for any of the above-mentioned groups was affected by ethnicity or gender.

This non-experimental quantitative study involved three high schools (grades 9-12) in the Lee's Summit R-7 School District in Missouri. The sample included 5,261 high school students during the 2008-2009 school year. For this study, the dependent variable was cumulative unweighted GPA. The independent variable took the form of categories. There were three independent variables – participation, gender, and ethnicity. Once the data was compiled and organized in an Excel spreadsheet, the researcher entered the data into SPSS Version Faculty Pack 16.0 to analyze. Two-factor ANOVA were conducted for all hypotheses and Tukey post hoc analyses were used to analyze further significant interaction effects.

Analysis of data revealed a significant difference for the main effect for GPA between participants and non-participants. An interaction effect for participation by ethnicity was also significant which indicates that ethnicity does affect the differences in

GPA between participants and non-participants. Participants outperformed non-participants for all sub-groups with the exception of Black and Hispanic participants.

The tests conducted for the second research question showed a significant difference in GPA between athletics participants and non-participants. The interaction effect for athletic participation by ethnicity was also significant indicating that ethnicity does affect the differences in GPA between athletics participants and non-participants. Once again, participants outperformed non-participants for all sub-groups with the exception of Black and Hispanic participants.

The third research question reflected participants and non-participants in co-curricular activities. Results showed the main effect for co-curricular participation provided evidence for a significant difference in GPA between participants and non-participants. When gender was tested, the interaction effect for co-curricular participation by gender was significant indicating that gender does affect the differences in GPA between participants and non-participants. Female participants outperformed all other students. Male participants did not outperform male non-participants.

The final research question tests demonstrated a main effect significant difference in GPA based on the type of activity students participated. The interaction effect for athletics, co-curricular, or both types of participation by gender was significant. Female participants outperformed all other students. Male participants did not outperform male non-participants. Once again, male participants were the exception.

Recommendations for further research included replicating the study using data over a longer period than one school year to analyze the outcomes, and replicating the study by adding a qualitative component – making it a mixed research design. A

researcher could gather information by interviewing randomly selected students in each category about the perceptions of participants and non-participants. Another recommendation is to replicate the study using another dependent variable such as state assessment data or ACT scores or another population such as middle level learners.

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CHAPTER ONE

INTRODUCTION AND RATIONALE

High school is a time in a student's life to experience a variety of educational opportunities that can provide emotional, mental, physical, and social experiences that last a lifetime. Administrators, teachers, counselors, and coaches continually encourage students to become involved in an activity or athletics during their high school career. A high school offering athletics as part of its student academic preparation strategy would be considered to have adopted all aspects of the student experience as part of a balanced program of study for all students (Hill, 2007). Durbin (1986) furthers this sentiment by explaining how extracurricular activity participation helps develop basic values of self-respect, self-esteem, and competitive spirit. Teamwork and learning how to win or lose are invaluable principles learned through these experiences.

The Department of the Interior published the *Commission on the Reorganization of Secondary Education* (1918) which discussed the need to reorganize the structure of secondary schools based on changes in society, increasing student population, and developmental educational theories. From this document arose the seven Cardinal Principles, one of which was the "worthy use of leisure" (p. 11). These principles were to guide education at every grade level. The publication highlighted the considerations that educators should use when organizing secondary schools. The commission suggested schools were failing students with respect to the use of leisure time and involvement in activities other than academics. This was an opportunity for schools to form organized recreational activities within either the school or the community to enhance student social interactions (Department of Interior, 1918). Gholson (1976) cited

the work of Grass (1964), to reinforce the suggestions of the commission by appointing administrators to oversee the organization of such leisure activities. Because of the growth of extracurricular activities, there is not enough time in a day for one principal to cover all activities without another person to help them (Gholson, 1976). This position is the current activities or athletic director position in many high schools today.

Research has shown that extracurricular activities have benefited students in such ways as higher self-esteem to increased academic achievement (Holland & Andre, 1987). “We must do all we can to keep these programs alive in our nation’s high schools. We can demonstrate that participation in athletics and activities helps students succeed in life” (Howard & Gillis, 2008). Teachers and coaches serve as role models. The social interactions gained from participating in extracurricular activities with same age peers are priceless experiences. Some researchers (Cooper, Valentine, Nye, & Lindsay, 1999; Fredricks & Eccles, 2006; Marsh, 1992; Marsh & Kleitman, 2002) have documented a positive association between extracurricular participation and increased academic outcomes. Outcomes have included improvement in school engagement, grades, and educational aspirations. In contrast, other studies showed no significant advantages in academic achievement with participation in extracurricular activities (Broh, 2002; Coleman, 1961; Holland & Andre, 1987). These studies and their findings are discussed further in the review of literature.

Schools were challenged by the economy during the 2008-2009 school year. Many districts, including Lee’s Summit, faced budget cuts and had to decide just where to tighten the belt. Some debated whether to keep programs such as athletics and co-curricular activities or to eliminate related teaching positions and sponsors. Mathews

(2009) revealed a Loudoun County, Virginia district cutting junior varsity and all freshman sports, and a proposed budget for a Fairfax County, Virginia district would end girls' gymnastics. The Broward School Board in Florida proposed to eliminate golf, tennis, water polo, and boys' volleyball. These cuts would enhance individual schools' budgets by \$55 million divided among them (Reaction, 2009). However, some districts had already cut extracurricular activities out of their budgets. Grove City High School in Ohio, began the 2009-2010 school year without the normal excitement that football, cross country, and even marching band brings to a new fall sports season. A proposed property tax was rejected and the School Board elected to cancel all activities that cut \$2.5 million in expenses across the district (Garcia, 2009). These cuts were made after other cuts failed to solve financial problems. The cross country coach for Grove City discussed how top athletes may transfer to other schools with better-funded programs, but is worried about average athletes who will miss the collegiality and sense of belonging that a team can provide (Garcia, 2009). The Lee's Summit School District made a \$1 million or a 3% district-wide operation budget reduction for the 2008-09 school year. The district continued with a \$9.1 million reduction for the 2009-2010 school year without eliminating extracurricular activities, academic programs, or employee positions (Lee's Summit School District, n.d.a). Holland and Andre (1987) shared the belief that educators and the public have taken a critical look at extracurricular activity programs and only decided on the welfare because of cost cutting measures and not the knowledge of the developmental effects of these programs. The Lee's Summit School District has not been faced with the possibility of eliminating extracurricular activities or discussed

other funding sources for these programs; however, the possibility may be there in the future

Problem Statement

Districts across the nation are forced to decrease their budgets and some are doing that by cutting extracurricular activities. Extensive research has been conducted on the relationship between student participation in extracurricular activities and academic achievement (Broh, 2002; Eidsmore, 1961, 1964; Holland & Andre, 1987; Laughlin, 1978; Marsh, 1992; Otto & Alwin, 1977; Schafer & Armer, 1968; Silliker & Quirk, 1997; Spady, 1970; Watkins, 2004). While these studies have had contradictory findings, the studies have also included different methodology and variables such as GPA, standardized assessment, and student self-worth. No previous research study regarding extracurricular participation and student achievement has been conducted in Lee's Summit.

Background and Conceptual Framework

The current study was conducted in the Lee's Summit R-7 School District, a suburban school district southeast of Kansas City, Missouri. The Lee's Summit School District was reorganized in 1949 when 16 rural elementary districts combined with the Greenwood School District and the Lee's Summit City School District. These rural districts included High Mound, Cedar Hill, Hazel Grove, Maple Grove, Colbern, Lone Oak, Oakland, Cyclone, Center Point, Wright, Tennyson, Woodland, Hazel Dell, Walnut Grove, Tarsney, and Mason. In 1949, the school district totaled a little over 1,200 students. In 2008, the school district educated nearly 17,000 students (Lee's Summit School District, n.d.b).

Lee's Summit School District students are served by three high schools; each includes grades 9-12. All three are traditional, comprehensive high schools where students participate in competitive extracurricular activities sponsored by the Missouri State High School Activities Association (MSHSAA). The enrollment data presented in Table 1 are based on the September enrollment count as required by the Missouri Department of Elementary and Secondary Education (DESE). High school student enrollment increased by 878 students from 2003 to 2008. DESE requirements include that each school must report an ethnic breakdown of their student populations, but schools are not required to separate by gender. From 2003 to 2008, high school student enrollment increased by 368 African American students and 364 White students. The district experienced a smaller increase in Asian, Hispanic, and Indian ethnic groups. Within the past 5 years, the Asian population increased by 37 students, Hispanic by 98 students, and Indian by 11 students.

Each high school offers a variety of clubs, activities, and athletics that are available to all students. However, not all of these types of organizations are sponsored by MSHSAA. The current study only considered students as participants if the extracurricular activity followed MSHSAA requirements. Because all three high schools were members of MSHSAA, they were required to comply with the following academic eligibility requirements: "Participants must pass a minimum of 2.5 units of credit or have earned credit in 70% of the maximum allowable classes in which any student can be enrolled in the semester; whichever is greater, at a member school" (MSHSAA, 2008).

Table 1

Lee's Summit R-7 High School Enrollment

Ethnicity	2003	2004	2005	2006	2007	2008
Asian	71	87	117	114	122	108
Black	273	329	414	490	566	641
Hispanic	87	107	120	154	171	185
Indian	4	1	4	6	7	15
White	4038	4209	4283	4346	4423	4402
Total	4473	4733	4938	5110	5289	5351

Note. Adapted from "Building Student Demographics," 2008, Missouri Department of Elementary and Secondary Education. Available at <http://www.dese.mo.gov>

The Lee's Summit School District classifies athletics and activities as extracurricular activities or co-curricular activities. Athletics are sports activities that must meet MSHSAA eligibility requirements. Co-curricular organizations have academic and activity guidelines and requirements. The following activities—Chamber Choir, debate/forensics, marching band, orchestra, and symphonic band—are held to both extracurricular and co-curricular standards. These organizations are allowed to meet for a class period during the school day. The students receive academic credit for the course and must meet MSHSAA eligibility requirements to compete against other MSHSAA member schools. A listing of MSHSAA athletics and activities offered in the Lee's Summit School District is found in Table 2. All of the extracurricular activities listed were relevant to the study.

Table 2

MSHSAA Sponsored Extracurricular Activities in the Lee's Summit School District

Athletics	Co-Curricular Activities
Baseball	Academic Team
Basketball	Chamber Choir
Cross Country	Cheerleading
Football	Color Guard
Golf	Dance Team
Gymnastics	Debate/Forensics
Soccer	Marching Band
Softball	Orchestra
Swimming	Symphonic Band
Tennis	Theatre
Track	
Volleyball	
Wrestling	

Note. Adapted from "R-7 District Athletics & Activities," (n.d.c), Lee's Summit School District. Available at <http://www.leesummit.k12.mo.us>.

Significance

Lee's Summit has had a strong commitment to supporting extracurricular activities and providing opportunities for students to be involved in such activities. The findings from this study have the potential to educate administrators, teachers, board members, coaches, parents, and students about the value of participation in athletics and

co-curricular activities in the Lee's Summit R-7 School District. The findings could provide evidence that facilitates informed decision-making about retaining and funding extracurricular activities in the Lee's Summit School District.

Purpose Statement

The purpose of this study was to determine whether a difference exists between the GPAs of extracurricular participants and non-participants. The second purpose of this study was to determine whether a difference exists between the GPA of participants in athletics and non-participants in athletics. The third purpose of this study was to determine whether a difference exists between the GPA of participants in co-curricular activities and non-participants in co-curricular activities. The fourth purpose of the study was to determine whether a difference exists between the GPA of at least two of the following: participants in athletics, participants in co-curricular activities, or participants in both athletics and co-curricular activities. Additionally, the purpose was to determine if the difference in GPA for any of the above-mentioned groups is affected by ethnicity or gender.

Delimitations

Delimitations are factors controlled within the study by the researcher (Roberts, 2004). The study was limited to one suburban school district, Lee's Summit R-7 School District. All data collected was limited to the 2008-2009 school year. The only extracurricular activities considered in this study were those recognized by the MSHSAA. These delimitations may limit the ability to generalize the findings beyond the Lee's Summit R-7 School District.

Assumptions

As Roberts (2004) noted, assumptions are what the researcher takes for granted. The study was based on the assumptions that every student who met the MSHSAA eligibility requirements was given an opportunity to participate in extracurricular activities, district data retrieved for this study were accurate, and all data was entered accurately into Excel and Statistical Package for the Social Sciences (SPSS) Version Faculty Pack 16.0.

Research Questions

Gall, Gall, and Borg, (2005) explained that formulating research questions is one of the first steps in planning a research study. These questions guided the study and provided the organization for the statistical analyses. The following research questions were addressed in this research project.

1. What is the difference in GPA between students who participate in extracurricular activities and non-participants?
2. Is the difference in GPA between extracurricular activity participants and non-participants affected by gender?
3. Is the difference in GPA between extracurricular activity participants and non-participants affected by ethnicity?
4. What is the difference in GPA between participants in athletics and non-participants in athletics?
5. Is the difference in GPA between athletics participants and non-participants affected by gender?

6. Is the difference in GPA between athletics participants and non-participants affected by ethnicity?
7. What is the difference in GPA between participants in co-curricular activities and non-participants in co-curricular activities?
8. Is the difference in GPA between co-curricular participants and non-participants affected by gender?
9. Is the difference in GPA between co-curricular participants and non-participants affected by ethnicity?
10. What is the difference in GPA between any two of the following: participants in athletics, participants in co-curricular activities, or participants in both athletics and co-curricular activities?
11. Is the difference between the GPA of any two of the following affected by gender: participants in athletics, participants in co-curricular activities, or participants in both athletics and co-curricular activities?
12. Is the difference between the GPA of any two of the following affected by ethnicity: participants in athletics, participants in co-curricular activities, or participants in both athletics and co-curricular activities?

Definition of Terms

This section of the study lists terms used that do not have a common meaning or that may be easily misunderstood (Roberts, 2004). The following terms were referenced for this study.

Co-curricular activities. These are represented as being outside of, but usually complementing the regular curriculum. (*Merriam-Webster Online Dictionary*, 2009)

Cumulative unweighted grade point average (GPA). This figure is determined by all courses taken during the student's high school career. The cumulative average does not include weighted values for advanced courses. (*Merriam-Webster Online Dictionary*, 2009)

Extracurricular activities. These are represented by the athletics and co-curricular activities listed in Table 2. (Lee's Summit School District, n.d.c)

Grade point average (GPA). This figure is the average obtained by dividing the total number of grade points earned by the total number of credits attempted. The high schools use a 4-point system of grading to calculate GPA (A = 4, B = 3, C = 2, D = 1, F = 0). (Lee's Summit School District, n.d.d)

Missouri State High School Activities Association (MSHSAA). This is the governing organization for interscholastic competitions in the state of Missouri. It provides the framework for standards and requirements that participating school districts must follow to remain in compliance. (Missouri State High School Activities Association, 2008)

Power School Student Information System. This is the computer-based depository of district student information in Lee's Summit.

Overview of Methodology

The researcher collected data during the 2008-2009 school year. This non-experimental quantitative study involved three high schools (grades 9-12) in the Lee's Summit R-7 School District. Gender, grade level, ethnicity, cumulative unweighted grade point average, and extracurricular activity data were collected for the samples of participants and non-participants. The Power School Student Information System and eligibility rosters provided to MSHSAA were used to gather data for the study.

Individual rosters were completed by the coaches and sponsors and reported to the Athletics/Activities Directors. The Athletics/Activities Directors provided hard copies of the eligibility rosters to the researcher. School registrars created school demographic information in Excel spreadsheets, which included student names, grade level, and GPA. These spreadsheets were forwarded, by electronic mail, to the researcher.

The data were compiled and organized in an Excel spreadsheet and input into Statistical Package for the Social Sciences (SPSS) Version Faculty Pack 16.0. GPA mean scores and standard deviations were computed for the extracurricular activity participants and non-participants. The first hypothesis was tested to determine if a significant difference existed between participants and non-participants. The researcher examined the differences in GPA between extracurricular activity participants and non-participants as affected by gender and ethnicity for hypotheses two and three. The fourth hypothesis tested the significant difference between participants in athletics and non-participants in athletics. The researcher examined the difference in GPA between participants in athletics and non-participants as affected by gender and ethnicity for hypotheses five and six. The seventh hypothesis tested the significant difference between

participants in co-curricular activities and non-participants in co-curricular activities. The researcher examined the difference in GPA between participants in co-curricular activities and non-participants as affected by gender and ethnicity for hypotheses eight and nine. The tenth hypothesis tested the significant difference between at least two of the following: participants in athletics, participants in co-curricular activities, or participants in both athletics and co-curricular activities. Finally, the eleventh and twelfth hypotheses examined the differences in GPA between either participants in athletics, participants in co-curricular activities, or both as affected by gender and ethnicity. Each of the twelve hypotheses was analyzed using a two-factor ANOVA. Tukey post hoc analysis was used to analyze further significant interaction effects.

Summary and Organization of the Study

This chapter included an introduction to the study, the problem statement, and background information of the Lee's Summit School District. The significance, purpose statement, delimitations, and assumptions were provided. Definitions of terms were presented and a brief overview of the methodology was shared. The remainder of the study is organized into chapters, reference pages, and appendices. Chapter Two presents a review of the literature covering information about academic achievement of participants and non-participants in extracurricular activities. Chapter Three discusses the topics of research design, population and sample, hypotheses, research variables, data collection procedures, and statistical analysis as related to this study. Chapter Four presents all data collected and study results, based on the statistical analysis conducted in the study. Chapter Five includes the interpretation of the data, its relationship to the

literature review and the hypotheses, implications for action, and recommendations for future study.

CHAPTER TWO

REVIEW OF LITERATURE

Introduction

This chapter presents the literature pertaining to high school student participation in extracurricular activities and academic achievement. Study results have varied but show students participating in extracurricular activities as less likely to drop out (McNeal, 1995; Sabo, 1989), having improved attendance rates (Silliker & Quirk, 1997), and having a positive relationship to grades (Camp, 1990). This chapter provides an overview of the history of athletics and extracurricular activities at the high school level, the benefits of extracurricular activities, and the disadvantages of extracurricular activity studies.

History of Athletics and Extracurricular Activities

Extracurricular activities have been a part of high school culture since the late 1800s (Gholson, 1985). Watkins (2004) stated that students were initially at the forefront of coaching and organizing these activities with their peers. These events were opportunities for students to let off steam and show their athleticism. Jable (1986) described how students in the state of Michigan organized the first high school teams and interschool competition. Their competitive spirit received the attention of school administration because of the use of players not attending the respective schools and the numerous injuries arising from football. Jable indicated schools were forced to take control over these extracurricular activities. Standards were incorporated for each activity at the buildings. Adult sponsors and coaches were hired and schools preferred

current teachers to shoulder these responsibilities. Jable (1986) further pointed out that not every school was fond of these activities.

Gholson (1985) discussed the slow acceptance and support of extracurricular activities in three phases. The first phase, approximately 1870-1900, was a time of “rejection” (p. 18). Schools saw no true value in these activities and felt no need to encourage such activities in the overall school program. Academics would remain the focus and not extracurricular activities.

The second phase, 1900-1920, was a time of “passive acceptance” (Gholson, 1985, p.18). Even though these types of activities existed since the early 1800s, they were not fully recognized by educational leaders, but school administration saw valuable learning opportunities in these student clubs and activities. Two major developments provided a slow acceptance of student activities in schools. The first was the 1918 publication, by the Commission on the Reorganization of Secondary Education, which advocated Seven Cardinal Principles. The commission viewed the comprehensive high school as an opportunity to promote the democratic components of specialization and unification. Two of the principles that supported these democratic ideals were health and proper use of leisure time (Gholson, 1986). The second major development was the curriculum work of Elbert K. Fretwell of Columbia University.

Several researchers (Gholson, 1985; Joekel, 1985; Kaufmann, 2002; Spring, 1997; and Watkins, 2004) discussed the 1918 Cardinal Principles of Secondary Education and the work of Elbert K. Fretwell. However, Spring’s analysis appears to be more historical in reference and chronicled the essence of the Department of Interiors intention for changing the look of secondary education. Spring (1997) felt it was the principles of

leisure time and health that would continue to support the need for socialization at the high school and stress “participation of pupils in common activities...such as athletic games, social activities, and the government of the school” (p. 229). These extracurricular activities would provide outlets for students to showcase strengths besides academics.

Spring (1997) also noted the second influential development that assisted the acceptance of student activities was the work of Elbert K. Fretwell. In 1917, Fretwell designed and implemented courses for school administrators on preparation for designing extracurricular activities. The idea of proper use of leisure time prompted Fretwell to initiate development of numerous resources on the organization of school activities for administrators. Administrators used his suggestions to incorporate activities such as assemblies, clubs, student government, and homeroom into the schools.

Gholson (1985) described the third phase (1920-1956) “as a period of active acceptance and encouragement” (p. 19). Student involvement in school activities was important, and as Spring suggested, educators used activities to enhance specific real world learning opportunities. Student government and later the school newspaper would be the most influential way in which educators would enhance the curriculum, teach socialization, and continue the democratic themes of the Cardinal Principles (Spring, 1997).

Gholson (1985) stated the fourth phase, from 1956-1985, was the opportunity for in-school activities and out-of-school activities to develop into one or become “fused” together (p. 19). Schools were offering academic credit for involvement in some extracurricular activities during the school day and after school. Incorporating activities

into the school day provided further opportunities for students and adults to collaborate and contribute to the unification of the school. Locally, booster clubs and parent organizations worked together to sponsor and plan some of these school activities. Many private clubs developed yearlong and summer opportunities in a wide variety of activities for students to perfect their athleticism and skill. In his book, *The American School 1642-1996*, Spring (1997) stated, "The comprehensive high school became a mixture of planned social activities and a variety of curricula, all of which were attempts to prepare a new generation" (p. 232).

Extracurricular Activities in Missouri

Keller (1979) and Watkins (2004) described the history of extracurricular activities as started by students. Students formed athletic associations, acted as player managers, and scheduled events. The events were not always well organized and fair. There were numerous accounts of fights, serious injuries, and arguments with officials, which embarrassed school administration. School officials could no longer ignore conditions and the time had come for them to assume more responsibility and control over athletic activities. Keller indicated by 1910, schools were forming conferences in which standards of conduct were established. Wisconsin, Michigan, and New York became the first statewide athletic organizations to control athletic competitions and set guidelines for participating public schools. Although some states modeled similar guidelines from these beginning states, it was not until February 1926 that Missouri formed such an organization (Keller, 1979).

The organization was the Missouri State High School Athletic Association (MSHSAA). The first sports controlled by this new organization were baseball,

basketball, football, track and field, and singles tennis. The Board of Directors established clear eligibility standards for each participant and member school. These standards of eligibility were established with “the precedent that participation in interscholastic athletic competition is a privilege rather than an inherent constitutional right” (Keller, 1979, p. 69). These standards arose out of the necessity to provide fair play for students and for each member school to promote the consistency of interscholastic play. Eligibility standards included students enrolled in the school and passing academic course work during and prior to the semester of competition. Student athletes were required to maintain good citizenship standards that the organization found to be the most important standard. MSHSAA also created a timeline for how long a student athlete could compete. Students were given four seasons of competition for eight consecutive semesters. The age of participants was originally restricted to no participants older than twenty-one, but in 1975 they were amended to restrict participants not older than nineteen. The remaining eligibility standards reflected the practices of the member school. They covered standards for transfers of enrollment, elimination of recruiting, athletes as amateurs, awards, non-school sponsored competition, and specialized athletic camps.

Keller (1979) shared that member schools also inquired of MSHSAA about the need to support co-curricular activities such as music and debate. Member schools were already competing in these activities with other member schools. School district administrators wanted the same eligibility standards for the students participating in co-curricular activities and for one statewide organization to supervise all extracurricular activities. However, it was not until 1949 that MSHSAA was renamed the Missouri State

High School Activities Association with music joining in 1949 and debate and speech in 1959 as its first co-curricular activities covered under this new configuration (Keller, 1979).

The expansion of the MSHSAA has continued since its inception in 1926. District and state tournaments are the culminating experiences for a sport season, and the first identification used in recognizing the sport by MSHSAA (Keller, 1979). As previously mentioned, basketball was one of the first recognized sports by MSHSAA. Boy's basketball did not participate until the 1926 state tournament, but it was not until 1973 that the association sponsored a girl's state tournament. There were always interscholastic girls' athletics in Missouri. A state tournament justified the need for more girls' interscholastic activities and addressed the issue of discrimination between the sexes (Keller, 1979). Track and field was also an early sport recognized by the association. The boy's first state track meet occurred in 1926 and the girl's in 1975. Tennis singles was another early state competition for males in 1926 and again a female state tournament added in 1975. The association in 1926 recognized football; however, a state tournament or playoff series was not initiated until 1968. "Football is not a tournament sport and tournaments cannot be administered in football as they are in other sports" (p. 136). MSHSAA continued to add other sports. The following state tournaments were added for male sports: wrestling in 1931, swimming in 1935, golf in 1936, cross country in 1944, baseball in 1950, and soccer in 1969. Participation for females in sports has also evolved. The following state tournaments were added for female sports in 1975: golf, softball, swimming, tennis, track and field, and volleyball (Keller, 1979).

MSHSAA also added state tournaments for co-curricular activities. Debate and speech state tournaments began in 1950 and became known as culminating “Evaluative Speech Festivals” (Keller, 1979, p. 139). During these festivals, students were judged on their skills and those with the highest ranking won the competition. All music state competitions were constructed similar to debate and speech; they were considered evaluative festivals.

MSHSAA standards and procedures have continued to change. At the beginning of the 2009-2010 school year, MSHSAA established new academic eligibility requirements and a dead period of non-participation.

A student in grades 9-12 must meet the following requirements, during the semester of participation and the semester prior to participation, in order to be academically eligible to participate in interscholastic activities: a student shall have earned a minimum of 3.0 units of credit or earned credit in 80% of the maximum allowable classes or whichever is greater (Missouri State High School Activities Association, 2009, p. 38).

As by-laws and standards change, it is the hope of MSHSAA to develop rules that will assist individuals and member schools to maintain eligibility.

Benefits of Extracurricular Activities

According to the National Federation of State High School Associations (NFHS), during the 2008-2009 school year, 7,536,753 students participated in athletics. This number has increased by 3.5 million participants since the 1971-1972 school year (2009). Historically, these numbers have continued to rise because of opportunities made

available by state and local organizations. Because of the increase in numbers, the NFHS sees the benefits of extracurricular activities promoting citizenship and sportsmanship. In addition, “students who participate in extracurricular activities tend to have higher GPAs, better attendance records, lower dropout rates, and fewer discipline problems...”

(Wisconsin Interscholastic Athletic Association, 2009, n.p.).

Eidsmore (1964) conducted a study during the 1962-1963 school year focusing on the top thirty football teams as ranked by the Iowa Associated Press. He reported that twenty of the thirty schools participated in the study which included 592 participants. Eidsmore compared the first semester GPAs of participants to their respective grade level class. He furthered the academic comparison by collecting GPA data for subject area courses for English, math, science, and history with non-participants. Eidsmore's (1964) findings were similar to his 1961 comparison, which will be discussed later. Football participants had higher overall GPAs than their grade level class and had higher GPAs in each of the four selected subject areas as compared to non-participants.

Schafer and Armer's (1968) study also focused on participation in sports. Their study results showed student involvement in sports in fact helps academic achievement. They chose two Midwestern high schools during the summer of 1964 with a total number of 585 boys. There were 164 athletic participants and 421 non-participants. Schafer and Armer compared the GPAs of participants and non-participants and “measured the relationship of students' socioeconomic status and amount and form of their participation in athletics” (p. 22). The amount of participation was measured by how many seasons an athlete competed. Active participants were defined by the number of seasons athletes competed during the school year. They also divided the type of sport by comparing

football and basketball participants (major sport athletes) with participants in track, swimming, wrestling, and gymnastics (minor sport athletes). The results showed that athletes had higher GPAs than non-athletes did and the more active participants had higher GPAs than less active participants did. Schafer and Armer looked further to see if participants stayed in school and graduated with their class. Non-athletes were more likely to drop out compared to athletes. They concluded that athletics fosters rather than interferes with educational goals (Schafer and Armer, 1968).

Fejgin's (1994) study discussed participation in high school competitive sports and academic achievement. The data were analyzed from the National Educational Longitudinal Study of 1988 (NELS: 88) study sponsored by the National Center for Education Statistics (NCES) and the first follow-up sample in 1990. The sample size in 1988 included 26,432 students and 22,696 students in 1990. The independent variable was athletic participation and the dependent variables were grades, self-concept, locus of control, discipline, and educational aspirations. Regression analyses were conducted to determine the relationship between the variables. Fejgin (1994) discovered that participants in high school sports had significantly higher grades, self-concept, educational aspirations, locus of control, and fewer discipline problems. She suggested schools research methods to encourage sport participation for more students because of the overwhelming results of the study.

Kaufmann's (2002) study researched the relationship between GPA and attendance for participants in athletics. The analysis included data from two mid-western, suburban high schools outside a major metropolitan area. He also chose to study the relationships between participation in athletics and highest level of mathematics

completed, and American College Testing (ACT) composite score, to indicate the possible relationship between participation in athletics and college bound readiness. Longitudinal data were collected and analyzed for five years for 1,365 students. The study looked at the relationship between participation in athletics and school achievement as measured by final grade point average. The results showed a significant difference in GPA between participants and non-participants. Athletic participation also had a significant effect on attendance. Student participation in athletics showed a level of significance for the highest level of mathematics taken. Athletic participation was not significant in regards to ACT score. Kaufmann (2002) mentioned the value this data would provide to justify and extend the existence of athletics in schools instead of cutting budgets and programs.

Eidsmore (1961) investigated whether athletic participation led to poor quality academic performance. His sample included the Iowa 1960-61 boys and girls Sub-State and State tournament basketball teams. A total number of 168 males and 96 females participated in the study. Eidsmore used first semester GPAs for participants as compared to the mean GPA of their respective grade level class. His findings demonstrated higher overall GPA averages for both male and female participants when compared to non-participants.

Silliker and Quirk (1997) replicated Laughlin's (1978) study which he called a within group design. They expanded the Laughlin design to study both male and female soccer players. The participants were current soccer players and were not involved in any other extracurricular activity after the conclusion of the soccer season. One hundred twenty-three high school students from five rural western New York schools were chosen

as the sample. Attendance records and GPA were collected for each student to represent academic performance. Their findings showed that all participants had significantly higher GPAs in-season than out-of-season. Attendance rates were better in-season than out-of-season, but not at the significant level. When discussing gender differences, females did earn higher GPAs and had higher attendance rates than males, but males earned significantly higher GPAs during the season as compared to out-of-season. The significantly higher GPAs in-season for male soccer players matched the results from Laughlin's (1978) study. The study supports the belief that involvement in athletics for high school students does not endanger, and may enhance, academic performance (as cited in Holloway, 1999).

Dropout rates and minority participation in athletics were investigated in Sabo's (1989) study that featured the data from the HSB longitudinal study of 14,000 sophomores in 1980, and sub-samples of these students in 1982, 1984, and 1986. The purpose of the study was to determine if high school sports were a hindrance to minority youth during the 1980s. The minority analysis focused on African-Americans, Hispanics, and Caucasians that identified themselves as members of a specific racial or ethnic group. Athletes were considered individuals who reported participation on varsity athletic teams both in their sophomore year and in their senior year. Non-athletes were those identified as participants only in the sophomore year or not at all (Sabo, 1989). Sabo's results indicated that athletic participation significantly lowered the dropout rate for rural Hispanic females, suburban Hispanic males, rural black males, and rural and suburban males and females (1989). Senior black male athletes remained in school and did not drop out at higher rates than non-athletes did. Sabo (1989) reported that "sport

participation was significantly associated with higher grades for suburban black males and rural Hispanic females” (p. 8). Athletic participation significantly influenced test performance on achievement tests in mathematics, reading, and vocabulary for rural Hispanic females and urban black males and linked to the performance of suburban white males. Overall Sabo (1989) felt athletic participation for Hispanic females demonstrated the most success. They were more likely to improve their academic performance while in high school, to graduate, and to attend college following high school. Finally, Sabo shared there was “no evidence that sport participation was a detriment to getting good grades. In fact, as a group, varsity athletes reported achieving higher averages than non-athletes,” (p. 8).

Another study which included gender of extracurricular participants and academic achievement was conducted by Hanson and Kraus (1998). Their study looked at the role sports played in the science-achievement for high school females in the 1980s. Although they used the longitudinal data from the HSB study, their study was limited to the base-year and first follow-up, which included 11,683 students. They made comparisons between males and females and racial subgroups to enhance their study. The dimensions of science experience included achievement (grades and standardized test scores), access (course selection), and attitudes (relevance of mathematics for future occupation). Sport attitudes and activities were based on the participation variable: participant and non-participant. Results indicated males were more likely to participate in sports than females as sophomores. As sophomores, female participants demonstrated significant gains in their access to science experiences. Sophomore male participants indicated a significant negative effect on their achievement in science.

Another study, conducted by Whitley (1999), reviewed the educational performance of athletes and non-athletes for 133 of the 301 member schools in the North Carolina High School Athletic Association (NCHSAA) during the 1994-1995 school year. The study was also longitudinal in nature covering three consecutive years – 1993-1996. The sample size was 126,700 students in grades 9 through 12. Whitley examined differences in GPA and attendance for athletes and non-athletes. He also categorized the data into sub-groups by gender and ethnicity. The analyses showed that athletes had a higher average GPA than non-athletes did and each athletics sub-group had a significantly higher GPA than non-athlete sub-groups did. Whitley concluded that “dumb jocks” are out performing their non-athletic counterpart’s year in and year out.

Broh (2002) examined the relationship between participation in extracurricular activities and academic achievement. He considered interscholastic sports, intramural sports, cheerleading, music, drama, student council, yearbook, and vocational clubs as independent variables and measured academic performance with grades and standardized test scores in the 12th grade. He used the NELS: 88 study sponsored by the NCES because of its longitudinal study and specific measures of students’ participation in extracurricular activities. The sample of 12,578 participants met the following criterion: “participated in the base-year as 8th graders, remained in school through the 12th grade, and had valid measures on four educational outcomes [math grades, English grades, math test scores, and reading test scores]” (Broh, 2002, p. 74). The demographic variables or measures included gender, ethnicity, socioeconomic status, parents’ educational attainment, parent structure, school classification, school geographic location, and school size. His methodology tested three framework models that were discussed in previous

studies: (1) the developmental model (Coleman, 1961), (2) the leading-crowd hypothesis (Coleman, 1961), and (3) the social capital model (Portes, 1998) that links participation in extracurricular activities to engaging experiences with teachers and participants' parents engaging with other participants' parents. Throughout the study, Broh also focused on the relationship between participation in extracurricular activities and academic achievement. The results indicated that scores on math tests are significantly higher for students who participate in sports during the 10th and 12th grades. Participation in sports during the 10th and 12th grades significantly improves self-esteem, locus of control, and time on homework. Broh's results also showed participating in sports in the 10th and 12th grades significantly increases social ties between students and parents, students and the school, parents and the school, and parents and parents. As mentioned before, Broh's (2002) study included other non-sport activities. Music participation improves math and English grades and participation in student council does help students improve their grades.

Marsh (1992) investigated the effects of extracurricular activity participation (EAP) on students' growth and change during the last two years of high school. He used the data from the second follow-up of the sophomore cohort for the HSB study (NCES, 1986).

In this study three factors were considered that had not been previously addressed in other research: (1) whether there are nonlinear effects of EAP level (moderate levels of participation are beneficial, whereas very high levels are not), (2) the extent to which different components of self-concept mediate EAP effects, and (3) whether EAP

effects interact with individual characteristics (gender, socioeconomic status, ability level) (Marsh, 1992, p. 554).

Marsh used total EAP (TEAP) to categorize student participation at the sophomore and senior level based on their responses to the survey. The results showed TEAP was significantly related to GPA, taking advanced courses, senior-year educational aspirations, academic self-concept, and parental involvement (Marsh, 1992). Although the significance was small, Marsh purported that participation in extracurricular activities “leads to increased commitment to school and school values, which leads indirectly to increased academic success” (p. 560).

McNeal (1995) examined whether student participation in extracurricular activities significantly affected the student’s chances of dropping out. The data were taken from the 1980 High School and Beyond (HSB) study conducted by the NCES. The HSB study “was specifically designed to study characteristics that influence growth and change in a wide variety of academic outcomes during the last two years of high school” (as cited in Marsh, 1992, p. 554). The sample included students enrolled in 735 regular public high schools who met the following conditions: (1) participated in the study at both the baseline (1980) and first follow-up (1982), (2) took the battery of achievement tests, and (3) either were still in high school or had dropped out as of 1982. These restrictions produced a sample of 17,251. Participants were grouped into four categories: athletics, fine arts, academic clubs, and vocational clubs and further divided into participants and nonparticipants. Participation in athletics or fine arts activities was found to be significant in reducing the student’s likelihood of dropping out. McNeal went on to describe a “students’ desire or need to be ‘involved’ may drive much of the

effect; that is the need to be part of a group or community... to participate... and persist in school” (p. 76).

In his 1990 study, Camp examined the effects of participation in student activities on overall student success in school, as measured by grades. The data included the 1984 second follow-up of the HSB study. The sample included 7,668 students that completed their senior year. Dependent variables were academic ability, television habits, study habits, employment, activity level, and academic achievement. Camp’s results indicated a positive, significant relationship between student participation and academic achievement; specifically grades. In addition, females outscored males in the area of study habits and academic achievement (1990).

Dropout rates for high school students are a constant worry for school administrators. Mahoney and Cairns (1997) examined the relationship of extracurricular activity involvement to early school dropout. Their longitudinal study began in the 1982–1983 school year with two middle schools. The research sample consisted of 392 students (206 girls, 186 boys) which was a part of a broader population of 475 students. Participants were interviewed annually for six years, from the 7th grade until the 12th grade. Mahoney and Cairns used school yearbooks to document student extracurricular involvement. They noted 64 activities had been identified by students from the yearbooks. A descriptive code was used for participants and non-participants. Mahoney and Cairns also included variables on academic and behavioral competence scale, school dropout information, demographics, and socioeconomic status based on participants interviews in the 7th grade. Their findings indicated that dropout rates increased over

time and dropouts participated in fewer extracurricular activities at all grade levels, for both boys and girls.

Barden (2002) researched whether participation in athletics and co-curricular activities in high school provided significant educational benefits in the areas of discipline records, GPA, attendance records, and dropout rate. Data was collected for the 2000-2001 school year from a school district located in eastern Georgia with four high schools. Six hundred participants represented Barden's (2002) proportional stratified sample from the four high schools. Results showed that students not participating in extracurricular activities had the highest mean for discipline referrals. Participants showed a significantly higher GPA and attendance records than non-participants. Discipline referrals were also lower for extracurricular participants. The sample size revealed that only 15 students were noted as dropouts, but 14 out of that number were non-participants in extracurricular activities. Barden (2002) concluded that the results of the study would best help school districts make informed decisions about extracurricular activities and budgetary concerns.

In his investigation of secondary school students' self-reported reasons for participation in extracurricular musical and athletic activities, Ebie (2008) shared findings from an open-ended, free response questionnaire to determine the factors students felt contributed most to making participation in extracurricular activities meaningful. There were 160 participants from urban, suburban, and rural high schools in the Southwestern United States. Students were divided into athletic participants and extracurricular musical participants and could not be involved in both. The questionnaire was developed and used successfully in other studies by Gorlow and Schroeder (1968), Farrell (1972),

and Hylton (1981). “In all, four categories, encompassing both athletics and music emerged from the coding process: *Social/Integrative, Kinesthetic, Self-Esteem, and Self-Efficacy*” (Ebie, 2008, p.4). The number of responses associated with each category was reported and the majority of the answers fell within the social/integrative category. According to Ebie, his findings indicated that athletes and musicians chose to participate in their extracurricular activity because of a need to experience teamwork. The second highest response was in the self-esteem category. Students commented that extracurricular activities provided positive feelings about themselves, achievable goals, and overwhelming feeling of personal satisfaction (Ebie, 2008). These findings are limited to answers extracurricular activity participants reported for reasons of involvement. The two groups chose similar reasons for participating which Ebie felt was an important benefit in following up for further research (2008).

Streb’s (2009) research focused on the differences in academic success measured by GPA and ACT scores between co-curricular activity participants and non-participants. Streb also studied whether there was a significant difference in GPA and ACT based on the type of co-curricular activity (athletics, fine arts, and service/academic leadership organizations). His study included 492 high school graduates from a large Midwestern school district. The results showed a significant difference in GPAs for students that participated in co-curricular activities compared to non-participants. Participants in co-curricular activities had significantly higher ACT scores than non-participants. Streb’s (2009) review of GPA and ACT based on the type of co-curricular activity resulted in significantly higher GPAs for participants in fine arts and service/academic leadership organizations compared to athletic participants. Participants in service/academic

leadership organizations had significantly higher ACT scores than athletic participants. Streb concluded that the results supported a difference between high school student's involvement in co-curricular activities and academic success (2009).

Watkins (2004) examined the effects of GPA and student participation in extracurricular activities in one rural Georgia high school, grades 9-12. His study included female and male students enrolled from 1997-2002. The total sample size was 3,274. Watkins also categorized students into one of four categories in order to make his comparison: "interscholastic athletics only, co-curricular activities only, both interscholastic athletics and co-curricular activities, and no extracurricular activities" (p. 32). Data were analyzed using one-factor ANOVA and followed-up with the Scheffe post hoc comparison procedure when significant differences were indicated. Results revealed that students who participated in extracurricular activities consistently performed better academically than students who participated in no extracurricular activities. Both male and female results were significant, with one exception. A female co-curricular participant had a higher average GPA than female interscholastic athletes had, but the difference was not statistically significant.

Holland and Andre (1987) reviewed thirty studies and provided a methodological critique focused on the relationship between extracurricular activities and adolescent development. They paid attention to five specific areas: "personal-social characteristics, academic achievement, educational aspirations and attainments, participants' roles in activities, and environmental social context" (Holland & Andre, 1987, p. 437). The literature reviewed was lengthy and positive correlations were found to exist between extracurricular activities and personality/social characteristics, higher self-esteem, male

academic ability and grades, and educational aspirations. They conjecture that participation in extracurricular activities may lead to acquired new skills, strengthen attitudes, or reception of social rewards.

Disadvantages and Limitations of Extracurricular Activity Studies

Although there are researchers reporting the benefits of participation in extracurricular activities, there are also those who indicate there are disadvantages of extracurricular activity participation. The results of extracurricular activity studies are mixed. Researchers (Broh, 2002; Coleman, 1961; Emmons, 1995; Hanson & Kraus, 1998; Holland & Andre, 1987) showed that participation in these activities encouraged higher social status yet did not result in higher academic achievement. Moreover, Holland and Andre (1987) felt the types of methodology chosen for most extracurricular activity participation studies does not accurately describe the true results of the study.

In his 1961 study, *The Adolescent Society*, Coleman discussed the adverse affects of student participation in extracurricular activities. The study included ten Northern Illinois schools of various school and community sizes. Coleman included 8,971 students representing urban, suburban, and rural schools. Surveys and questionnaires were administered to each student. He conducted a statistical analysis for each school and on a combined database. Based on survey answers, Coleman shared that athletic achievement was an important status symbol for adolescents and for being considered a part of the popular or leading crowd status. Coleman (1961) agreed that student participation was valued higher than academic achievement. A high school male's social status was directly related to athletic participation and not academic standing.

In their 1987 study, Holland and Andre concluded that the available research on the relationship between extracurricular activities and adolescent development does not demonstrate a causal sequence for adolescent development. In their critique of methodological problems with extracurricular participation research studies, they discussed six research limitations that needed to be considered when analyzing these studies (Holland & Andre, 1987). The first is the methodological problem of self-selection of students into participant and nonparticipant categories. The studies reviewed with this methodology are cautioned because they look at “the differences between groups of students that choose or do not choose to participate, rather than the influence of participation and nonparticipation groups” (Holland & Andre, 1987, p. 449). Holland and Andre recognized that self-selection cannot be avoided when conducting research on participation in extracurricular activities. Students choose which activities they wish to participate or not participate. These samples of convenience have been selected and assessed at a given point in time, and are examined with relationships between participants and other variables. In Holland and Andre’s (1987) findings, researchers of other extracurricular activity studies have interpreted and discussed their data as causal inferences. Holland and Andre point out it is important that relationships between participation in extracurricular activities and other variables are not provided as evidence for causal effects.

The second limitation found in Holland and Andre’s (1987) study was for researchers “to assess variables that are likely to covary with dependent variables of interest and to statistically separate participation from such variables” (p. 449). Examples they described was the use of variables that interact with participation and family

socioeconomic status, self-esteem, and school size. They encouraged researchers' to look beyond one environment and expand to community and social contexts.

A third limitation Holland and Andre (1987) spoke of was a failure to conduct longitudinal research. They discussed the need for longer periods of time or even time delays of one or two years in which to collect data. Their discussion highlighted better assessment and analyses of causal relationships between participation experiences and outcome variables because of longitudinal studies (p.450).

The fourth limitation to extracurricular participation studies discussed by Holland and Andre (1987) was variations in sample quality in particular size of the sample. They found that most studies used samples of convenience ranging from a school setting to nationwide databases. Holland and Andre spoke earlier of the caution when using samples of convenience and stressed again for researchers' to use descriptive information available about samples.

A fifth limitation discovered by Holland and Andre (1987) appeared when the length, type of, and success achieved by participants were not clearly assessed or defined in the studies. Researchers' assumed participation in any extracurricular activity produced the same relationships within the analyses. Holland and Andre recommended, "research in this area needs to describe types of activities and to assess the level and process of involvement more adequately" (p. 451).

The final limitation illustrated by Holland and Andre (1987) called for a more detailed theoretical approach to the research. Based on their original research focus, Holland and Andre point out that a more theoretical approach to research provides an in-depth analysis of participation, how participation occurs, and how participation

influences adolescent development. As Holland and Andre revealed the limitations to extracurricular participation studies, they also provided additional research suggestions and a chart comparing the various studies reviewed. They felt their findings justified allocation of resources for such extracurricular activities and the hope that researchers will adjust their methodology to produce accurate results (Holland & Andre, 1987).

During the senior year, although Hanson and Kraus (1998) reported that female participation in sports had a significant effect on access to and attitudes toward science, when they disaggregated the data by racial subgroups, sports had a negative effect on the science experiences of African American females and no effect on Hispanic females. In their findings, Hanson and Kraus (1998) discussed that science courses and attitudes are directly affected by female participation in sports, but further research should be conducted to see if there is an indirect effect of sports on science achievement through course taking and attitudes.

While Broh's (2002) study showed significant gains in some areas of student achievement, he was concerned with the variability of past results. Broh examined previous extracurricular activity participation research and focused on the relationship between participation in extracurricular activities and academic achievement. He questioned the empirical evidence that existed and felt the evidence was indirect and inconclusive. Broh discussed that measures of sport participation differed across studies and participation in these sports had differences in affect on academic performance (2002).

Emmons (1995) examined extracurricular activity eligibility standards and whether these standards really improved student academics. He saw eligibility standards

as an arbitrary consequence for students that do not perform well in school. The specific hypothesis stated “there is no significant difference in the academic achievement, as represented by grade-point average, of high school student-athletes for the total four-year composite grade means for the four core subject areas prior to athletic participation compared to during athletic participation” (Emmons, 1995, p. 109). Emmons included 330 student-athletes, in the class of 1993, from 11 high schools in three New England states. These three states incorporated the same state requirements of passing at a D level in the four core subject areas prior to and during athletic participation. Results showed no significant differences in grade-point averages in-season compared to out-of-season. Therefore, Emmons concluded that eligibility standards may not be the solution to motivating student-athletes to perform at high levels of academic achievement.

Summary

This literature review presented the history of extracurricular activities and the development of extracurricular activities in the state of Missouri where this study took place. The review also discussed other studies conducted discussing the impact of student participation in extracurricular activities and academic achievement. Outcomes of these studies ranged from less likely to drop out, having improved attendance rates, improved self-esteem, and having a positive relationship to grades. The review further demonstrated disadvantages and limitations to extracurricular participation studies. Chapter Three discusses the topics of research design, population and sample, hypotheses, research variables, data collection procedures, and statistical analysis as related to this study.

CHAPTER THREE

METHODS

Introduction

The purpose of this study was to determine whether a difference exists between the GPAs of extracurricular participants and non-participants. The second purpose of this study was to determine whether a difference exists between the GPA of participants in athletics and non-participants in athletics. The third purpose of this study was to determine whether a difference exists between the GPA of participants in co-curricular activities and non-participants in co-curricular activities. The fourth purpose of the study was to determine whether a difference exists between the GPA of any two of the following: participants in athletics participants in co-curricular activities, or both. Additionally, the purpose was to determine if the difference in GPA for any of the above-mentioned groups is affected by ethnicity or gender.

This chapter describes the methodology used while conducting the research study. The chapter includes a description of the research design, population, and sample of those studied. In-depth information regarding sampling procedures and data collection is included, with a systematic description of the procedures followed in the study. The chapter then guides the reader through the data analysis and hypothesis testing. This section includes the types of descriptive statistics used, the level of statistical significance, and the hypothesis tests. The chapter concludes with a section covering the limitations of the study.

Research Design

The current study was designed to use quantitative research methods because basic information and behavior were observed. A descriptive research method was used to identify the differences in GPA of extracurricular participants and non-participants in high school students in the Lee's Summit School District for the 2008-2009 school year. Gall et al. (2005) shared that descriptive research aims to provide a clear, accurate description of individuals, events, or processes.

When conducting research, "the variable in which a difference is observed is called the dependent variable" (Gall et al., 2005, p. 185). The dependent variable used in the study was cumulative unweighted GPA for high school students enrolled in grades 9-12. A numerical average was used in the computation. The mean GPA for each student was collected at the end of the 2008-2009 school year. In research, "a variable that is hypothesized to cause an observed difference is called an independent variable" (Gall et al., 2005, p. 185). In research questions one through three, there were three independent variables: participation in extracurricular activities, gender, and ethnicity. The two categories for extracurricular activities were participants and non-participants in MSHSAA extracurricular activities offered in the school district. In research questions four through six, there were three independent variables: participation in athletics, gender, and ethnicity. The two categories were participants and non-participants in MSHSAA athletics offered in the school district. For research questions seven through nine, there were three independent variables: participation in co-curricular activities, gender, and ethnicity. Included in this research question was one independent variable with two categories, participation in co-curricular activities and non-participation in co-

curricular activities. For research questions ten through twelve, there were three independent variables – participation, gender, and ethnicity. The one independent variable with three categories was participation in athletics, participation in co-curricular activities, or participation in both. See Table 2 in Chapter One for the groupings of extracurricular activities. The ethnic groups identified in the district student information system were Asian, Black, Hispanic, Indian, and White.

Population and Sample

The population for this study was high school students in grades 9-12. The sample size was 5,351 high school students enrolled in the three high schools of the Lee's Summit R-7 School District; a suburban district near Kansas City, Missouri. School 1 had a total enrollment of 1,804 students. School 2 had a total enrollment of 1,916 students. School 3 had a total enrollment of 1,631 students. Table 3 presents an overview of each school's student enrollment by gender and ethnicity. The sample exhibited high participation in extracurricular activities with an ethnically diverse population.

Table 3

Lee's Summit R-7 High School Enrollment September 2008 by Ethnicity and Gender

Ethnicity	School 1	School 2	School 3
Asian Male	15	24	34
Asian Female	9	16	19
Black Male	103	108	105
Black Female	90	116	119
Hispanic Male	38	37	22
Hispanic Female	33	33	22
Indian Male	1	2	1
Indian Female	2	7	2
White Male	754	803	668
White Female	759	770	639
Total	1804	1916	1631

Note. Adapted from "Building Student Demographics," 2008, Missouri Department of Elementary and Secondary Education. Available at <http://www.dese.mo.gov>

Sampling Procedures

In research studies, "purposive sampling involves selecting a sample based on the researcher's experience or knowledge of the group to be sampled" (Lunenburg & Irby, 2008, p. 175). In this study, purposive sampling was used because the researcher worked in the Lee's Summit School District which allowed for ease and convenience of gathering information. Lunenburg and Irby (2008) advised that researchers should use results from purposive sample studies with caution because information sometimes cannot be

generalized to a population. Holland and Andre (1987) agreed with Lunenberg and Irby but suggested that researchers should describe the sample in detail to provide the best quantitative review. The researcher included students enrolled in grades 9-12 because MSHSAA extracurricular activities are offered at all four grade levels in the high school setting.

Data Collection Procedures

When describing data collection procedures, it is important to be clear and precise to enable other researchers to replicate the study (Roberts, 2004). The collection of data focused on the cumulative unweighted GPA. The information was cross-referenced with eligibility rosters for each extracurricular activity to identify participants and non-participants.

Prior to conducting the study, the researcher obtained consent by filling out a request for permission to conduct research/gather data in the Lee's Summit R-7 Schools. The completed form was sent to the Associate Superintendent of Instruction and School Leadership for the district (see Appendix A). The district's Instructional Operations Team (I.O.T.) reviewed the request to determine whether the researcher could proceed with the project. In addition, the researcher was also required to seek approval to conduct the research study from the Baker University Institutional Review Board (see Appendix B).

After the research was approved January 9, 2009 by the I.O.T. (see Appendix C) and the Baker University Institutional Review Board (see Appendix D) on May 8, 2009, the researcher contacted each high school building principal to discuss the research study. The researcher assured building principals that all data would be kept confidential,

student names would be deleted after the database was organized, and no comparison would be made between buildings in the study. The researcher offered to provide each building principal the data for their respective buildings. Each building principal agreed to assist the researcher and suggested meeting with athletic directors and school registrars to discuss the needed data.

The researcher phoned the district athletic and activities director inquiring about the upcoming all-district athletic and activities meeting. The district athletic director placed the researcher on the agenda to discuss the research study and request for data by building. The researcher then phoned the school registrars to discuss the research study and asked for school demographic information including gender and ethnicity of all students. Both of these groups agreed to assist. The administrators in charge of activities and athletics provided hard copies of MSHSAA eligibility rosters grouped by extracurricular activity. The school registrars sent a complete list of students by name, grade level, gender, ethnicity, and cumulative unweighted GPA in Microsoft Excel spreadsheet format by electronic mail. The researcher cross-referenced the hard copy eligibility rosters with the school lists to account for all students.

Data Coding

The researcher combined data from each of the three high schools into one Excel spreadsheet. Athletics and co-curricular activity titles were listed alphabetically, horizontally across the spreadsheet; one per cell. For ease when data were entered, the researcher decided to define the participation variables as numbers, either 1 or 0. As data were entered, if a student participated in that activity the number one was placed next to their name in that activity column. If a student did not participate in an activity, the

number zero was placed next to their name in that activity column. No additional coding was used to identify ethnicity, GPA, or gender.

Data Analysis and Hypothesis Testing

The data were compiled and organized in an Excel spreadsheet and imported into Statistical Package for the Social Sciences (SPSS) Version Faculty Pack 16.0. GPA mean scores and standard deviations were computed for the extracurricular activity participants and non-participants. Hypotheses in the study reflect the expectations of the researcher concerning the differences between variables. The study tested the following hypotheses for statistical significance.

H₁: There is a difference in the GPA between participants and non-participants in extracurricular activities at the 0.05 level of significance. The mean scores and standard deviations were computed for these two groups. The data were analyzed using the main effect for participation in the two-factor ANOVA (used to test hypothesis two) to determine if a significant difference in GPA existed between participants and non-participants.

H₂: The difference in GPA between participants and non-participants is affected by gender at the 0.05 level of significance. The data were analyzed using a two-factor analysis of variance (ANOVA) where two factors indicate there were two independent variables: participation and gender (Salkind, 2008). A Tukey Honestly Significantly Different (HSD) post hoc analysis was used if the interaction was significant. Salkind (2008) described a post hoc analysis as an after-the-fact comparison because every mean is compared to every other mean to determine where the significant differences lie.

H₃: The difference in GPA between participants and non-participants is affected by ethnicity at the 0.05 level of significance. The data were analyzed using a two-factor analysis of variance (ANOVA). GPA was the dependent variable and extracurricular participation status and ethnicity were the independent variables. A Tukey Honestly Significantly Different (HSD) post hoc analysis was used if the interaction was significant.

H₄: There is a difference in the GPA between participation in athletics and non-participants in athletics at the 0.05 level of significance. The data were analyzed using a two-factor analysis of variance (ANOVA). GPA was the dependent variable and extracurricular participation status was the independent variable.

H₅: The difference in GPA between participants in athletics and non-participants is affected by gender at the 0.05 level of significance. The data were analyzed using a two-factor analysis of variance (ANOVA). GPA was the dependent variable and extracurricular participation status and gender were the independent variables. A Tukey Honestly Significantly Different (HSD) post hoc analysis was used if the interaction was significant.

H₆: A difference in GPA between participants and non-participants is affected by ethnicity at the 0.05 level of significance. The data were analyzed using a two-factor analysis of variance (ANOVA). GPA was the dependent variable and extracurricular participation status and ethnicity were the independent variables. A Tukey Honestly Significantly Different (HSD) post hoc analysis was used if the interaction was significant.

H₇: There is a difference in the GPA between participants in co-curricular activities and non-participants in co-curricular activities at the 0.05 level of significance. The data were analyzed using a two-factor analysis of variance (ANOVA). GPA was the dependent variable and extracurricular participation status was the independent variable.

H₈: The difference in GPA between participants in co-curricular activities and non-participants is affected by gender at the 0.05 level of significance. The data were analyzed using a two-factor analysis of variance (ANOVA). GPA was the dependent variable and extracurricular participation status and gender were the independent variables. A Tukey Honestly Significantly Different (HSD) post hoc analysis was used if the interaction was significant.

H₉: The difference in GPA between participants in co-curricular activities and non-participants is affected by ethnicity at the 0.05 level of significance. The data were analyzed using a two-factor analysis of variance (ANOVA). GPA was the dependent variable and extracurricular participation status and ethnicity were the independent variables. A Tukey Honestly Significantly Different (HSD) post hoc analysis was used if the interaction was significant.

H₁₀: There is a difference, at the 0.05 level of significance, between the GPA of at least two of the following: participants in athletics, participants in co-curricular activities, or participants in both athletics and co-curricular activities. The data were analyzed using a two-factor analysis of variance (ANOVA). A Tukey Honestly Significantly Different (HSD) post hoc analysis was used if the main effect for participation was significant.

H₁₁: The difference, at the 0.05 level of significance, between the GPA of at least two of the following is affected by gender: participants in athletics, participants in co-

curricular activities, or participants in both athletics and co-curricular activities. The data were analyzed using a two-factor analysis of variance (ANOVA). GPA was the dependent variable and extracurricular participation status and gender were the independent variables. A Tukey Honestly Significantly Different (HSD) post hoc analysis was used if the interaction was significant. .

H₁₂: The difference, at the 0.05 level of significance, between the GPA of at least two of the following is affected by ethnicity: participants in athletics, participants in co-curricular activities, or participants in both athletics and co-curricular activities. The data were analyzed using a two-factor analysis of variance (ANOVA). GPA was the dependent variable and extracurricular participation status and ethnicity were the independent variables. A Tukey Honestly Significantly Different (HSD) post hoc analysis was used if the interaction was significant.

Limitations

“Limitations of a study are not under the control of the researcher. Limitations are factors that may have an effect on the interpretation of the findings or on the generalizability of the results” (Lunenberg & Irby, 2008). The study was conducted in one suburban Midwestern school district, which may make the results difficult to transfer to other districts. However, a school district with similar demographics to Lee’s Summit may find the results useful. The sample size included 5,351 high school students enrolled in the Lee’s Summit R-7 School District during the 2008-2009 school year. The number of extracurricular activities offered in the Lee’s Summit school district is less than the number of activities sponsored by the MSHSAA.

Summary

This chapter reviewed the purpose of the study and the research questions and presented the hypotheses. The participants were high school students enrolled in grades 9-12 from three high schools in the Lee's Summit School District. The data collection procedures were discussed in detail and the data analysis methods were described for each research hypothesis. Chapter Four reports the results of the hypotheses testing.

CHAPTER FOUR

RESULTS

Introduction

As mentioned previously, the purpose of the study was to determine whether a difference exists between the GPAs of extracurricular participants and non-participants. The study further determined if differences exist between the GPA of participants in athletics and non-participants in athletics as well as, participants in co-curricular activities and non-participants in co-curricular activities. The study analyzed the differences between the GPA of at least two of the following: participants in athletics participants in co-curricular activities, or both. Additionally, the study determined if the difference in GPA for any of the above-mentioned groups is affected by ethnicity or gender. This chapter presents the data gathered for students in the three high schools (grades 9-12) from the Lee's Summit R-7 School District during the 2008-2009 school year. Descriptive statistics were used to describe the sample and ANOVAs were conducted to test each of the hypotheses.

Descriptive Statistics

The population for this study was high school students in grades 9-12. The sample was 5,351 high school students enrolled in the three high schools of the Lee's Summit R-7 School District in Lee's Summit, Missouri at the start of the 2008-2009 school year. The SPSS Version Faculty Pack 16.0 statistical program was used to analyze the data for this study. The descriptive statistics and the demographics of the sample are presented in Tables 4 and 5.

Enrollment Sample

The total sample size changed in number to 5,261 students by the end of the 2008-2009 school year. This size was due to students dropping out or transferring out of the Lee's Summit R-7 School District. School 1 saw an overall decrease in enrollment of 23 students. In School 1, the male population decreased by 15 students and females decreased by eight students. School 2 saw an overall decrease in enrollment from September to June of 45 students. In School 2, the male population decreased by 32 students and females decreased by 13 students. School 3 saw an overall decrease in enrollment of 22 students. In School 3, the male population decreased by 9 students and females decreased by 13 students. Ethnicity in the district decreased in all areas. The Asian population decreased by 12 students, Black population decreased by 22 students, Hispanic population decreased by three students, the Asian population down one student, and the White population had the largest decrease of 54 students. The demographic breakdown is available in Table 4 reflecting the enrollment by ethnicity and gender at the conclusion of the 2008-2009 school year.

Table 4

High School Enrollment June 1, 2009 by Ethnicity and Gender (n=5,261)

Ethnicity	School 1	School 2	School 3
Asian Male	14	22	26
Asian Female	10	15	18
Black Male	98	88	103
Black Female	95	116	119
Hispanic Male	37	38	23
Hispanic Female	33	32	19
Indian Male	1	2	1
Indian Female	2	8	2
White Male	746	792	668
White Female	745	758	630
Total	1781	1871	1609

Participation by MSHSAA Extracurricular Activity

There were 2,757 participants in extracurricular activities. Participants represented 52% of the total number sampled. There were 2,504 non-participants in extracurricular activities that represented 48% of the sample. The number of participants in MSHSAA sponsored extracurricular activities during the 2008-2009 school year is summarized in Table 5. The MSHSAA eligibility rosters for music groups, which included Chamber Choir, marching band, orchestra, and symphonic band, were combined into one list. Even though these are separate activities, MSHSAA does not require

separate reporting. When reviewing the number of participants, the researcher did not eliminate students that participated in more than one athletics activity, co-curricular activity, or a combination of both types of extracurricular activities. Therefore, students may have participated in more than one extracurricular activity.

Table 5

High School 2008-2009 Participant by MSHSAA Extracurricular Activity (n= 3,968)

Athletics	Number of Students	Co-Curricular Activity	Number of Students
Baseball	122	Academic Team	41
Basketball	173	Cheerleading	99
Cross Country	137	Color Guard	18
Football	466	Dance Team	45
Golf	75	Debate/Forensics	158
Gymnastics	9	Music Groups	1103
Soccer	292		
Softball	114		
Swimming	213		
Tennis	153		
Track	524		
Volleyball	109		
Wrestling	117		

Hypothesis Testing

A two factor (Participation X Gender) ANOVA was used to test both hypothesis 1 and hypothesis 2. The main effect for participation provided evidence for a significant difference in GPA between participants and non-participants ($F_{1, 5256} = 455.224, p = .000$). This provides support for hypothesis 1. The average GPA of participants (3.079) was significantly higher than the average GPA of non-participants (2.676). Table 6 contains the means, standard deviations and sample sizes.

Table 6

GPA Descriptive Statistics for Participants and Non-Participants

Category	Mean	SD	N
Participants	3.079	.6331	2756
Non-Participants	2.676	.7456	2504

A two factor (Participation X Gender) ANOVA was used to test hypothesis 2. The interaction effect for participation by gender was not significant ($F_{1, 5256} = .674, p = .412$) indicating that gender does not affect the difference in GPA between participants and non-participants. Table 7 contains the means, standard deviations and sample sizes.

Table 7

GPA Descriptive Statistics for Participants and Non-Participants by Gender

Category	Mean	SD	N
Female Participants	3.201	.5762	1387
Female Non-Participants	2.818	.6934	1216
Male Participants	2.956	.6637	1369
Male Non-Participants	2.542	.7682	1288

A second two factor (Participation X Ethnicity) ANOVA was used to test hypothesis 3. The interaction effect for participation by ethnicity was significant ($F_{4, 5250} = 6.331, p = .000$) indicating that ethnicity does affect the differences in GPA between participants and non-participants. A follow-up post hoc was conducted to identify which means were significantly different (Tukey $HSD = .615$). The differences relevant to hypothesis 3 are as follows: Asian (3.323) participants had a higher average GPA than Black (2.457) and Hispanic (2.575) non-participants did; and Indian participants (3.538) had a higher GPA than Black (2.457), Hispanic (2.575), White (2.846) and Indian (2.290) non-participants did; and White (3.147) participants had a higher GPA than Black (2.457) non-participants did. Table 8 includes the descriptive statistics for participation by ethnicity. All of the means and differences are presented in a matrix in the appendix (see Appendix E).

Table 8

GPA Descriptive Statistics for Participants and Non-Participants by Ethnicity

Category	Ethnicity	Mean	SD	N
Non-Participants	Asian	2.902	.7184	59
	Black	2.399	.7813	307
	Hispanic	2.462	.7343	118
	Indian	2.074	1.0017	9
	White	2.727	.7273	2011
Participants	Asian	3.255	.6012	46
	Black	2.570	.6466	312
	Hispanic	2.940	.5084	64
	Indian	3.281	.6593	7
	White	3.147	.6025	2327

A two factor (Athletics X Gender) ANOVA was used to test both hypothesis 4 and hypothesis 5. The main effect for athletics participation provided evidence for a significant difference in GPA between athletics participants and non-participants ($F_{1, 5256} = 236.759, p = .000$). This provides support for hypothesis 4. The average GPA of athletics participants (3.064) was significantly higher than the average GPA of athletics non-participants (2.792). Table 9 contains the means, standard deviations and sample sizes.

Table 9

GPA Descriptive Statistics for Athletics Participants and Non-Participants

Category	Mean	SD	N
Athletics Participants	3.064	.6341	1841
Athletics Non-Participants	2.792	.7417	3419

A two factor (Athletics X Gender) ANOVA was used to test hypothesis 5. The interaction effect for athletics participation by gender was not significant ($F_{1, 5256} = .007$, $p = .934$) indicating that gender does not affect the difference in GPA between athletics participants and non-participants. Table 10 contains the means, standard deviations and sample sizes.

Table 10

GPA Descriptive Statistics for Athletics Participants and Non-Participants by Gender

Category	Mean	SD	N
Female Participants	3.242	.5515	762
Female Non-Participants	2.931	.6820	1841
Male Participants	2.938	.6582	1079
Male Non-Participants	2.630	.7753	1578

A fourth two factor (Athletics X Ethnicity) ANOVA was used to test hypothesis 6. The interaction effect for athletics participation by ethnicity was significant ($F_{4, 5250} =$

5.219, $p = .000$) indicating that ethnicity does affect the differences in GPA between athletics participants and non-participants. A follow-up post hoc was conducted to identify which means were significantly different (Tukey *HSD* = .629).

Table 11

GPA Descriptive Statistics for Athletics Participants and Non-Participants by Ethnicity

Category	Ethnicity	Mean	SD	N
Athletic Participants	Asian	3.323	.5069	32
	Black	2.529	.6634	242
	Hispanic	2.854	.5539	36
	Indian	3.538	.2079	4
	White	3.147	.5896	1527
Athletic Non-Participants	Asian	2.940	.7281	73
	Black	2.457	.7554	377
	Hispanic	2.575	.7232	146
	Indian	2.290	1.0253	12
	White	2.846	.7253	2811

The differences that address hypothesis 6 are as follows: Asian (3.323) participants had a higher average GPA than Black (2.457) and Hispanic (2.575) non-participants did; Indian participants (3.538) had a higher GPA than Black (2.457), Hispanic (2.575), White (2.846) and Indian (2.290) non-participants did as well as Black (2.529) and Hispanic (2.854) participants did; and White (3.147) participants had a higher GPA than Black

(2.457) and Indian (2.290) non-participants did. Table 11 includes the descriptive statistics for athletic participation by ethnicity. All of the means and differences are presented in a matrix in the appendix (see Appendix F).

A fifth two factor (Co-Curricular X Gender) ANOVA was used to test hypothesis 7. The main effect for co-curricular participation provided evidence for a significant difference in GPA between participants and non-participants ($F_{1, 5256} = 210.431, p = .000$). This provides support for hypothesis 7. The average GPA of co-curricular participants (3.155) was significantly higher than the average GPA of co-curricular non-participants (2.794). Table 12 includes the descriptive statistics for co-curricular participation.

Table 12

GPA Descriptive Statistics for Co-Curricular Participants and Non-Participants

Category	Mean	SD	N
Co-Curricular Participants	3.155	.6204	1357
Co-Curricular Non-Participants	2.794	.7259	3903

The sixth two factor (Co-Curricular X Gender) ANOVA was also used to address hypothesis 8. The interaction effect for co-curricular participation by gender was significant ($F_{1, 5256} = 6.603, p = .010$) indicating that gender does affect the differences in GPA between participants and non-participants. A follow-up post hoc was conducted to identify which means were significantly different (Tukey $HSD = .082$). The differences that address hypothesis 8 are as follows: Female co-curricular participants (3.201) had a

higher GPA than female co-curricular non-participants (2.931), male co-curricular non-participants (2.686). Male co-curricular participants (3.072) had a higher GPA than female (2.931) and male (2.686) co-curricular non-participants. Table 13 includes the descriptive statistics for co-curricular participation by gender. All of the means and differences are presented in a matrix in the appendix (see Appendix G).

Table 13

GPA Descriptive Statistics for Co-Curricular Participants and Non-Participants by Gender

Category	Gender	Mean	SD	N
Co-Curricular Participants	F	3.201	.5819	879
	M	3.072	.6783	478
Co-Curricular Non-Participants	F	2.931	.6814	1724
	M	2.686	.7417	2179

The seventh two factor (Co-Curricular X Ethnicity) ANOVA was used to test hypothesis 9. The interaction effect for co-curricular participation by ethnicity was not significant ($F_{4, 5250} = 1.458, p = .212$) indicating that ethnicity does not affect the difference in GPA between co-curricular participants and non-participants. Table 14 contains the means, standard deviations and sample sizes.

Table 14

GPA Descriptive Statistics for Co-Curricular Participants and Non-Participants by Ethnicity

Category	Ethnicity	Mean	SD	N
Co-Curricular Participants	Asian	3.311	.7183	22
	Black	2.751	.5807	121
	Hispanic	3.019	.4419	39
	Indian	3.268	.7212	6
	White	3.198	.6119	1169
Co-Curricular Non-Participants	Asian	2.990	.6698	83
	Black	2.421	.7374	498
	Hispanic	2.524	.7214	143
	Indian	2.203	1.0288	10
	White	2.862	.7027	3169

An eighth two factor (Type of Participation X Gender) ANOVA was used to test hypotheses 10 and 11. The main effect for athletics, co-curricular, or athletics and co-curricular participation provided evidence for a significant difference in GPA between at least two of the three means ($F_{2, 2753} = 27.089, p = .000$). This provides support for hypothesis 10. A follow-up post hoc was conducted to identify which means were significantly different (Tukey $HSD = .075$). The differences that address hypothesis 10 are as follows: Participants in both athletics and co-curricular activities (3.250) had a higher average GPA than participants in co-curricular activities (3.109) did. Participants

in co-curricular activities (3.109) had a higher average GPA than participants in athletics (3.006) did. Table 15 contains the means, standard deviations, and sample sizes.

Table 15

GPA Descriptive Statistics for Athletics Participation, Co-Curricular Participation, and Participation in Both

Category	Mean	SD	N
Athletic Participants	3.006	.6368	1399
Co-Curricular Participants	3.109	.6304	915
Athletic & Co-Curricular Participants	3.250	.5886	442

The ninth two factor (Type of Participation X Gender) ANOVA was used to test hypothesis 11. The interaction effect for athletics, co-curricular, or both participation by gender was significant ($F_{2, 2750} = 5.656, p = .004$). This provides support for hypothesis 11. A follow-up post hoc was conducted to identify which means were significantly different (Tukey $HSD = .134$). The differences that address hypothesis 11 are as follows: Females who participated in both athletics and co-curricular activities (3.324) had a higher average GPA than males who participated in athletics and co-curricular activities (3.150), female co-curricular participants (3.150), male co-curricular participants (3.021), and male athletics participants (2.894). Males who participated in both athletics and co-curricular activities (3.150) had a higher average GPA than male athletics participants (2.894) did. Female co-curricular participants (3.150) had a higher average GPA than

male athletics participants (2.894) did. Female athletics participants (3.202) had a higher average GPA than male co-curricular participants (3.021) and male athletics participants (2.894). Table 16 includes the descriptive statistics for participants in athletics, co-curricular activities, or both disaggregated by gender. All of the means and differences are presented in a matrix in the appendix (see Appendix H).

Table 16

GPA Descriptive Statistics for Athletics Participation, Co-Curricular Participation, and Participants in Both by Gender

Category	Gender	Mean	SD	N
Athletic Participants	F	3.202	.5668	508
	M	2.894	.6477	891
Co-Curricular Participants	F	3.150	.6015	625
	M	3.021	.6811	290
Athletic & Co-Curricular Participants	F	3.324	.5109	254
	M	3.150	.6682	188

The last two factor (Type of Participation X Ethnicity) ANOVA was used to test hypothesis 12. The interaction effect for athletics, co-curricular activities, or participation in both athletics and co-curricular activities by ethnicity was not significant ($F_{8,2741} = 1.465, p = .165$) indicating that ethnicity does not affect the difference in GPA between participants in athletics, co-curricular activities, or both athletics and co-curricular activities. Table 17 contains the means, standard deviations and sample sizes.

Table 17

GPA Descriptive Statistics for Athletics Participation, Co-Curricular Participation, and Participation in Both by Ethnicity

Category	Ethnicity	Mean	SD	N
Athletics	Asian	3.204	.4798	24
	Black	2.455	.6612	191
	Hispanic	2.816	.5857	25
	Indian	3.357	-	1
	White	3.096	.5888	1158
Co-Curricular Activities	Asian	3.098	.7747	14
	Black	2.711	.5667	70
	Hispanic	3.049	.4279	28
	Indian	2.938	.9645	3
	White	3.147	.6269	800
Athletic & Co-Curricular Participants	Asian	3.683	.4296	8
	Black	2.806	.6007	51
	Hispanic	2.941	.4884	11
	Indian	3.598	.2076	3
	White	3.308	.5633	369

Summary

Results from this study tested by two-factor ANOVA for the first research question revealed a significant difference in the main effect for GPA between participants and non-participants. The interaction effect for participation by ethnicity was also significant which indicates that ethnicity does affect the differences in GPA between participants and non-participants. The tests conducted for the second research question showed a significant difference in GPA between athletics participants and non-participants. The interaction effect for athletic participation by ethnicity was also significant indicating that ethnicity does affect the differences in GPA between athletics participants and non-participants. The third research question considered participants and non-participants in co-curricular activities. Results showed the main effect for co-curricular participation provided evidence for a significant difference in GPA between participants and non-participants. When gender was tested, the interaction effect for co-curricular participation by gender was significant indicating that gender does affect the differences in GPA between participants and non-participants. The final research question tests demonstrated a main effect significant difference in GPA based on the type of activity students participated. The interaction effect for athletics, co-curricular, or both types of participation by gender was significant.

This chapter contained an introduction to the findings of this study. The introduction was followed by a presentation of the descriptive statistics of the sample, including the high school enrollment count as of June 1, 2009 by gender and ethnicity and the number of high school participants by MSHSAA extracurricular activity. The four research questions and hypotheses were then reviewed and analyzed. The final

chapter will discuss the findings in relationship to the literature, implications for practice, recommendations for future research, and conclusions.

CHAPTER FIVE

INTERPRETATION AND RECOMMENDATIONS

Introduction

Extracurricular activities and academic achievement has been a topic of discussion in many school districts. As the NFHS reported extracurricular activities “promote citizenship and sportsmanship...they instill a sense of pride, teach lifelong lessons of teamwork and self-discipline and facilitate physical and emotional development of our youth” (Wisconsin Interscholastic Athletic Association, 2009, n.p.). It is imperative that facts are presented to make informed decisions about programs that exist in our schools and whether or not they are worthwhile to continue. The first part of this chapter provides an overview of the problem, the purpose of the study, and the methodology. The second part of this chapter reports the major findings, implications for action, and recommendations for further research.

Study Summary

Overview of the Problem

Districts across the nation are forced to decrease their budgets and some are doing that by cutting extracurricular activities. Extensive research has been conducted on the relationship between student participation in extracurricular activities and academic achievement (Broh, 2002; Eidsmore, 1961, 1964; Holland & Andre, 1987; Laughlin, 1978; Marsh, 1992; Otto & Alwin, 1977; Schafer & Armer, 1968; Silliker & Quirk, 1997; Spady, 1970; Watkins, 2004). While these studies have had contradictory findings, the studies have also included different methodology and dependent variables such as GPA, standardized assessment, and student self-worth. No previous research study regarding

extracurricular participation and student achievement has been conducted in Lee's Summit.

Purpose Statement

The purpose of this study had four components. The first was to determine whether a difference exists between the GPAs of extracurricular participants and non-participants, second to determine whether a difference exists between the GPA of participants in athletics and non-participants in athletics, and third to determine whether a difference exists between the GPA of participants in co-curricular activities and non-participants in co-curricular activities. Finally, the fourth component of this study was to determine whether a difference exists between the GPA of at least two of the following: participants in athletics, participants in co-curricular activities, or participants in both athletics and co-curricular activities. Additionally, the study also determined if the difference in GPA for any of the above-mentioned groups were affected by ethnicity or gender.

Review of the Methodology

This non-experimental quantitative study involved three high schools (grades 9-12) in the Lee's Summit R-7 School District in Lee's Summit, Missouri. The sample included 5,261 high students during the 2008-2009 school year. For this study, the dependent variable was cumulative unweighted GPA. The independent variable took the form of categories. There were three independent variables – participation, gender, and ethnicity. Once the data were compiled and organized in an Excel spreadsheet, the researcher entered the data into SPSS Version Faculty Pack 16.0 for analysis. Two-factor

ANOVAs were conducted for all hypotheses and Tukey post hoc analyses were used to analyze further significant interaction effects.

Major Findings

The major findings from this research study, which included twelve hypotheses, investigating the differences in GPA between extracurricular activity participants and non-participants are described in the following four sections.

Extracurricular Activities

The researcher wanted to examine the differences in GPA for extracurricular participants and non-participants, but also desired to conduct further analysis on the interaction effects based on gender and ethnicity. Data collected revealed a significant difference in the average GPA of participants than the average GPA of non-participants. The average GPA of participants was higher than the average GPA of non-participants. The results from the interaction effect for participation by gender were not significant in GPA between participants and non-participants. However, the results revealed a significant difference in the interaction effect for participation by ethnicity, indicating that ethnicity does affect the differences in GPA between participants and non-participants. All participant sub-groups performed significantly better than Black and Hispanic participants and non-participants did. Black and Hispanic participants did not perform better than Black and Hispanic non-participants.

Athletics

The researcher wanted to continue the study by breaking down extracurricular activities and looking at athletics participants and co-curricular participants. The main

effect test for athletics participation provided evidence for a significant difference in GPA between athletics participants and non-participants. The average GPA of athletics participants was significantly higher than the average GPA of athletic non-participants. The interaction effect for athletics participation by gender was not significant indicating that gender does not affect the difference in GPA between athletics participants and non-participants. However, the interaction effect for athletic participation by ethnicity was significant indicating that ethnicity does affect the differences in GPA between participants and non-participants. All participant sub-groups performed significantly better than Black and Hispanic participants and non-participants did. Black and Hispanic participants did not perform better than Black and Hispanic non-participants.

Co-Curricular

Co-Curricular activities were the other type of activity that fell under the umbrella of extracurricular activities the researcher wanted to examine. The main effect for co-curricular participation provided evidence for a significant difference in GPA between participants and non-participants. The average GPA of co-curricular participants was significantly higher than the average GPA of co-curricular non-participants. The interaction effect for athletic participation by gender was significant indicating that gender does affect the differences in GPA between participants and non-participants. Females significantly outperformed both male and female non-participants and male participants. The interaction effect for co-curricular participation by ethnicity was not significant indicating that ethnicity does not affect the difference in GPA between co-curricular participants and non-participants.

Types of Participation

The researcher chose to investigate whether one type of participants performed higher than the other type did. An examination of the differences in GPA between participants in athletics, co-curricular, or both activities was conducted. The main effect for athletics, co-curricular, or athletics and co-curricular participation provided evidence for a significant difference in GPA between the types of activities. The interaction effect for athletics, co-curricular activities, or both athletics and co-curricular activities by gender was significant. Females consistently earned higher average GPAs than males for each type of participation. Finally, the interaction effect for athletics, co-curricular activities, or participation in both athletics and co-curricular activities by ethnicity was not significant indicating that ethnicity does not affect the difference in GPA between participants in athletics, co-curricular activities, or both athletics and co-curricular activities.

Findings Related to the Literature

Holloway (1999) cited the work of Gerber (1996), to reinforce how extracurricular activity participation does not harm the academic performance of student participants, but encourages higher academic achievement. This section will link the results of the current study to previous extracurricular participation and student achievement studies.

In this study, when examining participants in extracurricular activities, participants earned higher GPAs than non-participants did. This finding is consistent with previous research (Barden, 2002; Camp, 1990; Marsh, 1992; Streb, 2009; and Watkins, 2004) which indicated that students who participate in extracurricular activities

achieve at higher levels than those who do not participate. The current study contradicts the findings in Emmons (1995) study in which there was no significant difference in GPA between extracurricular participants and non-participants. Emmons research concentrated on the GPA for participants in the four major courses: English, mathematics, science, and social studies and not their cumulative GPA. His study also focused on in-season versus out-of-season participation to see if eligibility requirements were necessary.

The researcher analyzed the relationship between participation in extracurricular activities and ethnicity. The participants achieved higher GPAs than the non-participants did. These results were consistent with Watkins (2004) study in which GPAs for all ethnic groups were significantly higher for participants than non-participants in extracurricular activities. Barden's (2002) study also discussed higher average GPAs for all ethnic participants than non-participants, but not at the statistically significant level.

The results of the Lee's Summit research study revealed a significant difference in GPA between athletics participants and non-participants. This finding is consistent with previous studies (Eidsmore, 1961; Eidsmore, 1964; Fejgin, 1994; Schafer & Armer, 1968; Silliker & Quirk, 1997; Whitley, 1999) where athletics participants consistently had higher average GPAs than athletics non-participants had. The athletics participants in Lee's Summit demonstrated a .27 higher average GPA, outperforming their non-athletics counterparts. However, Emmons's (1995) study indicated no significant difference in GPA for student-athletes.

The current study examined the differences in GPA between athletics participants and non-participants as affected by ethnicity. Athletics participants, once again, earned

higher GPAs than non-participants did. The exceptions in this study occurred within the GPA for Black and Hispanic athletics groups. Whitley (1999) found that all ethnic subgroups had a significantly higher average GPA than the non-athletic group. Hansen and Kraus (1998) also concluded that athletics had a negative effect on the science achievement of Black and Hispanic females. However, in Sabo's (1989) study the results indicated that Black male and Hispanic female athletes' had higher grades than their non-athletic counterparts did. Sabo illustrated that athletic participation significantly contributed to better academic performance. Sabo's study is different from the current study because he also used standardized test scores to see differences in academic achievement.

Extracurricular activities were categorized and defined differently in the studies reviewed in the literature when compared to this study. Some studies defined extracurricular activities as athletics only or a combination of athletics, co-curricular activities, and intramural activities. Both Watkins (2004) and Streb (2009) studies defined co-curricular activities much the same way as the Lee's Summit study. In Streb's study, the findings indicated "that student participation in co-curricular activities is linked with increased student academic achievement" (p. 59). In the current study, co-curricular participation had a significant main effect on GPA between participants and non-participants. Co-curricular participants averaged a .36 difference in average GPA than non-participants did.

The researcher investigated the differences in GPA between co-curricular participants and non-participants as affected by gender. Female co-curricular participants demonstrated a higher average GPA than female and male co-curricular non-participants

and male co-curricular participants. These findings support the previous research by Camp (1990) that female participants earn better grades than males. Watkins (2004) found that both female and male co-curricular participants earned higher GPAs than non-participants did.

Streb (2009) and Watkins (2004) reported that student participants in different type of activities such as athletics, co-curricular activities, or both, earned higher levels of academic success. In the Lee's Summit study, participants in both athletics and co-curricular activities demonstrated a .141 difference in GPA from co-curricular participants only and a .244 difference in GPA of athletics participants only. These findings would support the premise that the more activities students are involved in the higher the student achievement. As the Wisconsin Interscholastic Athletic Association reported:

Activities support the academic mission of schools. They are not a diversion but rather an extension of a good educational program. Students who participate in activity programs tend to have higher grade point averages, better attendance records, lower dropout rates and fewer discipline problems than students generally (1996, n.p.).

Finally, Watkins's (2004) research supports the finding from this study that gender significantly affects student participation in different type of activities such as athletics, co-curricular activities, or both athletics and co-curricular activities. Watkins indicated that female and male participants in both types of activities outperformed their non-participant counterparts. Contrary to that, Hanson and Kraus (1998) discussed their

results indicating that females did not benefit from the involvement in extracurricular activities.

Conclusions

Implications for Action

The findings of this study have implications for numerous stakeholders. The results should assist districts in making informed decisions about potential budget cuts. As discussed in Chapter 1, during the 2008-2009 school year the Lee's Summit School Districts was forced to make budget cuts in various areas because of the economic recession. It is the hope of the researcher that this study will assist in determining whether extracurricular activities should be on the negotiating table.

The findings showed that participation in extracurricular activities, whether athletics or co-curricular, have demonstrated higher average GPA. The researcher would recommend the district to encourage more participation in extracurricular activities for all students. One way to assist in this effort is to publicize and promote all available activities offered and more importantly provide transportation home to assist with after school participation.

The findings also revealed specific groups of the sample that are not benefitting academically from participation in extracurricular activities; specifically, all non-participants, Black and Hispanic participants, and male participants. The district needs to develop ways to target these groups such as small focus group discussions to gather information about the reasons students are not participating or succeeding academically.

Recommendations for Future Research

The following recommendations are made for further research studies involving extracurricular activity participation and student achievement.

The first recommendation is to replicate the study using a longitudinal design. Researchers could collect data over a longer period than one school year to analyze the outcomes. As pointed out by other researchers, (Holland & Andre, 1987) longitudinal studies allow for better assessment of data between variables to show trends over time and within a sample.

The second recommendation is to replicate the study by adding a qualitative component – making it a mixed research design. A researcher could gather information by interviewing randomly selected students in each category about the perceptions of participants and non-participants. This would assist in answering the questions of why students are active in extracurricular activities and some are not, and which activities do participants prefer to participate.

A third recommendation is to replicate the study using another dependent variable such as state assessment data or ACT scores. At the time of this study, the state assessment changed formats at the high school level and the data were not returned in a timely matter to the school district for the researcher to use. The assessment data would be another component to illustrate student achievement.

Finally, the fourth recommendation is to replicate the study at the middle school level. The Lee's Summit R-7 School District makes athletics and co-curricular activities available for middle level learners. It would be valuable to districts to have this data when making decisions about such activities.

Concluding Remarks

This study examined whether there were differences in GPA between extracurricular activity participants and non-participants. The study was further analyzed by differences in GPA between athletics participants and non-participants, co-curricular participants and non-participants, and participants in athletics, co-curricular activities, or both. Gender and ethnicity were also examined to see if an interaction effect made a difference.

Analysis of data revealed a significant difference for the main effect for GPA between participants and non-participants. An interaction effect for participation by ethnicity was also significant which indicates that ethnicity does affect the differences in GPA between participants and non-participants. Participants outperformed non-participants for all sub-groups with the exception of Black and Hispanic participants.

The tests conducted for the second research question showed a significant difference in GPA between athletics participants and non-participants. The interaction effect for athletic participation by ethnicity was also significant indicating that ethnicity does affect the differences in GPA between athletics participants and non-participants. Once again, participants outperformed non-participants for all sub-groups with the exception of Black and Hispanic participants.

The third research question reflected participants and non-participants in co-curricular activities. Results showed the main effect for co-curricular participation provided evidence for a significant difference in GPA between participants and non-participants. When gender was tested, the interaction effect for co-curricular participation by gender was significant indicating that gender does affect the differences

in GPA between participants and non-participants. Female participants outperformed all other students. Male participants did not outperform male non-participants.

The final research question tests demonstrated a main effect significant difference in GPA based on the type of activity students participated. The interaction effect for athletics, co-curricular, or both types of participation by gender was significant. Female participants in both athletics and co-curricular activities outperformed all other groups.

Overall the findings in this study support the statement that students who participate in extracurricular activities have higher GPAs than students who do not participate. However, when examining the interaction of ethnicity on participation in general and specifically athletics, Black and Hispanic participants do not earn higher GPAs than their non-participant counterparts did. Further research should be conducted to determine the reasons why these students do not perform at higher levels in the Lee's Summit R-7 School District.

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APPENDIX A: REQUEST FOR PERMISSION TO CONDUCT RESEARCH

Document Provided to Intended Researcher by:

Signature _____
 (Building Principal for District Employee
 or SLC Staff for Out-of-district Researchers)

Date: 12-16-06

INSTRUCTIONAL OPERATIONS TEAM
 Lee's Summit R-7 School District
 301 NE Tudor Rd.
 Lee's Summit, Missouri 64086

REQUEST FOR PERMISSION TO CONDUCT RESEARCH/GATHER DATA
 IN THE LEE'S SUMMIT R-7 SCHOOLS
 TO MEET A COURSE REQUIREMENT

DIRECTIONS: The applicant should complete this form, obtain the necessary approval and signatures, and return to:
 Associate Superintendent of Instruction & School Leadership
 Lee's Summit R-7 School District
 301 NE Tudor Rd.
 Lee's Summit, Missouri 64086

It may take up to three weeks for requests to be processed; please plan accordingly in order to meet course deadlines.

1. Please describe concisely the basic concepts and goals of your proposed project, and include an explanation of how the project meets a course requirement within the field of education. *The following research questions will be studied in this clinical research project:*

- ① *Is there a significant difference in GPA between students who participate in extracurricular activities and those that do not?*
- ② *Is there a significant difference in GPA between extracurricular participants and non-participants based on gender and ethnicity?*

2. List the names of all data collection instruments you intend to use and enclose a copy of each with this application. Also, enclose a copy of each parent/student consent form. Please describe in detail the distribution, implementation, and collection methods you intend to use in your data collection.

There are no data collection instruments used in this study. All data collected will be in the form of demographics information, extracurricular activity information (MSHSAA rosters), and cumulative un-weighted gpa. This information will be obtained from the current student information system and MSHSAA rosters.

Approved 2008

3. Give the names of the Lee's Summit R-7 School District public school(s), you intend to involve to meet the project requirements. Are there certain demographics required for the project (ie: grade level, gender, etc.)

All three high schools - LSNHS, LSNHS, LSNHS. Demographics required will include grade level, gender, ethnicity, and initially names for organization of data.

4. What amount of time would be required of staff or students in the R-7 schools in order to meet project requirements?

Minimal time required of staff. Staff members within each building to assist with data collection information.

5. Are there any other school records you would require (for example, achievement test scores or attendance?). If so, please provide a detailed explanation of your process to code such records to ensure confidentiality.

Yes, I would like to also have cumulative unweighted GPA of all high school students and MSHSAA eligibility rosters for all MSHSAA activities/athletics for 2008-09 school year. I will initially need student names when setting up my statistical database, once complete, students will be coded as a random number.

6. Give the name of each person who will enter the schools. For nondistrict employees, please provide existing background checks for individuals or a plan to ensure background checks are in place prior to entry in schools.

Rexanne Hill
Assistant Principal, LSNHS

School names will only be mentioned in the background information as no comparison will be made between schools.

7. What is the date you wish to begin? February 1, 2009

8. By what date do you anticipate being finished? July 31, 2009

9. Please obtain the signature of your instructor responsible for this assignment and attach a copy of the assignment guidelines.

Signature: Jensen K. Rogers, Ph.D.

Position: Associate Professor
Baker University

University/College/School/Department/Division:

GRADuate School of Education

10. Name of applicant (please print)

Roxanne E. Hill

Signature

A.P.; LSNHS

Position/Status

12/16/08

Date

Address

901 NE Douglas
Lee's Summit, MO 64086

Phone Number

(816) 986-3011**CRITERIA FOR APPROVAL OR DISAPPROVAL**

The approval or disapproval of requests will be made within the following general guidelines.

1. The only projects which will generally be approved are those which:
 - a) contribute to the improvement of education in the Lee's Summit R-7 Schools;
 - b) contribute to the improvement of education in general.
2. Even within the above categories, studies will generally be disapproved if they:
 - a) appear to infringe on the privacy of pupils, parents, or staff members;
 - b) present a burden to pupils or staff members;
 - c) threaten school-community relations in any way.
3. Research solely for a course requirement will be considered only for Lee's Summit R-7 School District staff.
4. At any point in the research process, R-7 staff can terminate the study if determined necessary for any reason.
5. The R-7 School District reserves the right to access any results or product created as a result of projects conducted using R-7 students, staff, or facilities.

PARTICIPATION OF THE SCHOOLS

Generally, participation in any research study conducted by an outside agency or individual will be completely voluntary on the part of the principals, teachers, pupils and any other personnel involved.

BAKER UNIVERSITY
The Clinical Research Study

The clinical research study will be conducted in accordance with guidelines established for doctoral candidates of Baker University. The clinical research study will follow recommendations found in "The Role and Nature of the Doctoral Dissertation: A Policy Statement," Council of Graduate Schools.

Purpose

The clinical research study will:

1. Reveal the candidate's ability to analyze, interpret and synthesize information;
2. Demonstrate the candidate's knowledge of the literature relating to the project or at least acknowledge prior scholarship on which the dissertation is built;
3. Describe the methods and procedures used;
4. Present results in a sequential and logical manner; and
5. Display the candidate's ability to discuss fully and coherently the meaning of the results.

The clinical research study will be the beginning of the candidate's scholarly work, not the culmination. This research is expected to provide the candidate with hands-on, directed experience in the primary research methods of the discipline, and should provide for the type of research that will be expected after the Doctor of Education degree is awarded.

Process

The candidate will receive a full description of the process to be used for completing the dissertation, including:

- Dissertation proposal development and approval
- Statement on originality
- Format and publication of the dissertation
- Adviser-Advisee relationship
- Administrative and faculty support
- Dissertation presentation process
- Deadline to complete dissertation

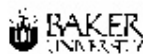
The candidate will be expected to successfully complete an initial portion of the research study through enrollment in Clinical Research Development for six (6) credit hours. The second portion of the research study will be completed in Clinical Research Completion and Presentation for ten (10) credit hours. After the ten credit hours are completed, the candidate must enroll in one hour per semester until the research study is successfully completed.

General Content

Following approval of the dissertation proposal by the candidate's major advisor and committee, the candidate will submit the dissertation to include:

- Chapter 1: Introduction – a description of the study's proposition(s), question(s) and hypothesis(es) to be examined
- Chapter 2: Review of the literature – a logical link of data to the proposition
- Chapter 3: Methodology – a description of the unit or units of analysis to be used
- Chapter 4: Results – a description of the findings
- Chapter 5: Discussion: a description of the interpretations made from the results, including the criteria for interpreting the findings and their applications to future studies

APPENDIX B: IRB FORM



SCHOOL OF EDUCATION
GRADUATE DEPARTMENT

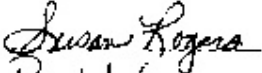
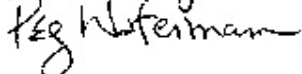
Date: _____
IRB OR PROTOCOL NUMBER _____
(IRB USE ONLY)

**IRB REQUEST
Proposal for Research**

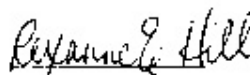
Submitted to the Baker University Institutional Review Board

I. Research Investigator(s) (Students must list faculty sponsor first)

Department(s) School of Education Graduate Department

Name	Signature	
1. <u>Dr. Susan Rogers</u>		Faculty Sponsor
2. <u>Peg Waterman</u>		Research Analyst
3. <u>Dr. Rob Flaherty</u>		
4. <u>Dr. David Ulrich</u>		

Principal Investigator: Rexanne Hill
Phone: 816-679-8136
Email: rehill@spgs@mail.bakeru.edu
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Lee's Summit, MO 64086



Faculty sponsor: Dr. Susan Rogers
Phone: 913-344-1226
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Expected Category of Review: Exempt Expedited Full

II: Protocol Title

**EXTRACURRICULAR ACTIVITIES: A LOOK AT STUDENT ACHIEVEMENT IN
THE LEE'S SUMMIT SCHOOL DISTRICT**

Summary

The following summary must accompany the proposal. Be specific about exactly what participants will experience, and about the protections that have been included to safeguard participants from harm. Careful attention to the following may help facilitate the review process:

In a sentence or two, please describe the background and purpose of the research.

The purpose of this study is to determine whether a difference exists between the GPA of extracurricular activity participants and non-participants. The study will further determine if the difference in GPA between extracurricular activity participants and non-participants was affected by gender and ethnicity. The study focuses on participants and non-participants in extracurricular activities in the Lee's Summit School District. Lee's Summit School District students are served by three high schools; each includes grades nine through twelve. All three are traditional, comprehensive high schools whose students participate in competitive extracurricular activities sponsored by the Missouri State High School Activities Association (MSHSAA).

Briefly describe each condition or manipulation to be included within the study.

The independent variables will take the form of categories which will include extracurricular activities (participants and non-participants), gender (male and female), and ethnicity (Asian, Black, Hispanic, Indian and White).

What measures or observations will be taken in the study? If any questionnaire or other instruments are used, provide a brief description and attach a copy.

The research study includes a dependent variable cumulative unweighted GPA, in the form of a numerical average, for high school students grade nine through twelve.

Will the subjects encounter the risk of psychological, social, physical or legal risk? If so, please describe the nature of the risk and any measures designed to mitigate that risk.

The subjects will not encounter any psychological, social, physical or legal risk in this study.

Will any stress to subjects be involved? If so, please describe.

No stress will be experienced by any of the subjects in this study.

Will the subjects be deceived or misled in any way? If so, include an outline or script of the debriefing.

The subjects will not be deceived or misled in any way in this study.

Will there be a request for information that subjects might consider to be personal or sensitive? If so, please include a description.

Archived information will be used for this research study and I will not be asking students any questions. Information requested for this study includes demographic information for each student grade nine through twelve in the Lee's Summit R-7 School District. Information will include name, grade level, gender, ethnicity, cumulative unweighted GPA and participation information from extracurricular activity eligibility rosters. I will initially need student names when setting up data tables and cross-referencing information. Once complete, the researcher will assign student names to be viewed as a number. Student names will never be mentioned in this research study. School names will only be mentioned in the background information and no comparison will be made between the three high schools.

Will the subjects be presented with materials that might be considered to be offensive, threatening, or degrading? If so, please describe.

The subjects will not be presented with materials for this study.

Approximately how much time will be demanded of each subject?

No time will be demanded by the student subjects. The researcher is utilizing school demographic rosters, GPA, and extracurricular activity participation, which can be gathered quickly from the district student information system.

Who will be the subjects in this study? How will they be solicited or contacted? Provide an outline or script of the information which will be provided to subjects prior to their volunteering to participate. Include a copy of any written solicitation as well as an outline of any oral solicitation.

The subjects in this study are all high school students, grade nine through twelve in the Lee's Summit R-7 School District during the 2008-2009 school year. Students will not be contacted or solicited for this study. The district office has reviewed the research proposal and has approved the request for information to conduct research/gather data. Building principals have been briefed and they have designated a contact person for the researcher to work with for gathering data. See attached approval from the Lee's Summit R-7 School District.

What steps will be taken to ensure that each subject's participation is voluntary? What if any inducements will be offered to the subjects for their participation?

As mentioned previously, student subjects will not be contacted for this study.

How will you ensure that the subjects give their consent prior to participating? Will a written consent form be used? If so, include the form. If not, explain why not.

Student subjects will not be contacted for this study and therefore a written consent is not necessary.

Will any aspect of the data be made a part of any permanent record that can be identified with the subject? If so, please explain the necessity.

No data will be made a part of any permanent record from this study.

Will the fact that a subject did or did not participate in a specific experiment or study be made part of any permanent record available to a supervisor, teacher or employer? If so, explain.

Archived data will be used for this research study. No data will be made a part of any permanent record from this study.

What steps will be taken to ensure the confidentiality of the data?

All data given to the researcher will remain confidential and will only be reviewed by the researcher. Once the statistical database is organized, names will be eliminated.

If there are any risks involved in the study, are there any offsetting benefits that might accrue to either the subjects or society?

There are no risks to this research study. Benefits to this study are to increase the body of research in this area. The findings could provide evidence that facilitates informed decision making with regards to retaining and funding extracurricular activities.

Will any data from files or archival data be used? If so, please describe.

Yes, data used from student files will include name, gender, ethnicity, grade level, cumulative unweighted GPA and participation in extracurricular activities.

APPENDIX C: APPROVAL TO CONDUCT RESEARCH

Ann Starlin-Horner/Administration/LSSD

01/09/2009 10:58 AM

TO: Rexanne Hill

SUBJECT: Request for Research

Rexanne,

IOT approved your request for research. We are very interested in receiving a copy of the report, especially the disaggregated data.

Good luck with your study,
Ann

Ann Starlin-Horner, Ph.D.
Associate Superintendent
Instruction and Leadership
(816) 986-1027

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APPENDIX D: IRB APPROVAL

08 May 2009

Rexanne Hill
1001 NE Woodbury Lane
Lee's Summit, MO 64086



Dear Ms. Hill:

The Baker University IRB has reviewed your research project application (M-0069-0509-0508-G) and approved this project under Exempt Review. As described, the project complies with all the requirements and policies established by the University for protection of human subjects in research. Unless renewed, approval lapses one year after approval date.

The Baker University IRB requires that your consent form must include the date of approval and expiration date (one year from today). Please be aware of the following:

1. At designated intervals (usually annually) until the project is completed, a Project Status Report must be returned to the IRB.
2. Any significant change in the research protocol as described should be reviewed by this Committee prior to altering the project.
3. Notify the OIR about any new investigators not named in original application.
4. Any injury to a subject because of the research procedure must be reported to the IRB Chair or representative immediately.
5. When signed consent documents are required, the primary investigator must retain the signed consent documents for at least three years past completion of the research activity. If you use a signed consent form, provide a copy of the consent form to subjects at the time of consent.
6. If this is a funded project, keep a copy of this approval letter with your proposal/grant file.

Please inform Office of Institutional Research (OIR) or myself when this project is terminated. As noted above, you must also provide OIR with an annual status report and receive approval for maintaining your status. If your project receives funding which requests an annual update approval, you must request this from the IRB one month prior to the annual update. Thanks for your cooperation. If you have any questions, please contact me.

Sincerely,

Marc I. Carter, PhD
Chair, Baker University IRB

CC: Susan Rogers

P.O. Box 65, Baldwin City
Kansas 66006-0065
785-594-6451 • fax 785-594-2522
www.bakeru.edu

APPENDIX E: HYPOTHESIS 3 POST HOC ANALYSIS

		NON-PARTICIPANTS					PARTICIPANTS				
		A	B	H	I	W	A	B	H	I	W
NON- PARTICIPANTS	Means	2.940	2.457	2.575	2.290	2.846	3.323	2.529	2.854	3.538	3.147
	A	2.940									
	B	2.457	-.483								
	H	2.575	-.365	.118							
	I	2.290	-.650*	-.167	-.285						
	W	2.846	-.094	.389	.272	.556					
PARTICIPANTS	A	3.323	.384	.866*	.749*	1.033	.477				
	B	2.529	-.411	.072	-.046	.239	-.317	-.794*			
	H	2.854	-.085	.397	.280	.564	.008	-.469	.325		
	I	3.538	.598	1.081*	.963*	1.248*	.692*	.214	1.009*	.683*	
	W	3.147	.208	.690*	.573	.857*	.301	-.176	.618*	.293	-.390

Note. * = indicates means that were significantly different (Tukey HSD > .626 or < -.626). A = Asian, B = Black, H = Hispanic, I = Indian, and W = White.

APPENDIX F: HYPOTHESIS 6 POST HOC ANALYSIS

		ATHLETICS NON-PARTICIPANTS					ATHLETICS PARTICIPANTS				
		A	B	H	I	W	A	B	H	I	W
ATHLETICS NON-PARTICIPANTS	Means	2.940	2.457	2.575	2.290	2.846	3.323	2.529	2.854	3.538	3.147
	A	2.940									
	B	2.457	-.483								
	H	2.575	-.365	.118							
	I	2.290	-.650*	-.167	-.285						
	W	2.846	-.094	.389	.272	.556					
ATHLETICS PARTICIPANTS	A	3.323	.384	.866*	.749*	1.033	.477				
	B	2.529	-.411	.072	-.046	.239	-.317	-.794*			
	H	2.854	-.085	.397	.280	.564	.008	-.469	.325		
	I	3.538	.598	1.081*	.963*	1.248*	.692*	.214	1.009*	.683*	
	W	3.147	.208	.690*	.573	.857*	.301	-.176	.618*	.293	-.391

Note. * = indicates means that were significantly different (Tukey HSD > .629 or < -.629). A = Asian, B = Black, H = Hispanic, I = Indian, and W = White.

APPENDIX G: HYPOTHESIS 8 POST HOC ANALYSIS

			FEMALE		MALE	
			FALSE	TRUE	FALSE	TRUE
Means			2.931	3.201	2.686	3.072
FEMALE	FALSE	2.931				
	TRUE	3.201	-.2697*			
MALE	FALSE	2.686	.2451*	.5148*		
	TRUE	3.072	-.1408*	.1289*	-.3859*	

Note. * = indicates means that were significantly different (Tukey HSD > .082 or < -.082). False represents non-participants in co-curricular activities. True represents participants in co-curricular activities.

APPENDIX H: HYPOTHESIS 11 POST HOC ANALYSIS

		Co-Curricular & Athletics		Co-Curricular		Athletics	
		Female	Male	Female	Male	Female	Male
Means		3.324	3.150	3.150	3.021	3.202	2.894
Co-Curricular & Athletics	Female	3.324					
	Male	3.150	-.174*				
Co-Curricular	Female	3.150	-.174*	.000			
	Male	3.021	-.303*	-.129	-.130*		
Athletics	Female	3.202	-.122	.052	.051	.181*	
	Male	2.894	-.430*	-.256*	-.257*	-.127	-.308*

Note. * = indicates means that were significantly different (Tukey HSD > .134 or < -.134).