

A STUDY OF THE RELATIONSHIPS BETWEEN EXTRACURRICULAR  
PARTICIPATION IN SELECTED NORTH CAROLINA HIGH SCHOOLS AND  
STUDENT ACHIEVEMENT AS DETERMINED BY CUMULATIVE GRADE POINT  
AVERAGE

A Dissertation  
by  
SANDY BOOTH GEORGE

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## Abstract

### A Study of the Relationships between Extracurricular Participation in Selected North Carolina High Schools and Student Achievement as Determined by Cumulative Grade Point Average

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The purpose of this study was to examine the relationship between high school academic achievement and participation in extracurricular activities. Academic achievement was measured by both weighted and unweighted GPA's. Data were categorized by four types of participation: athletics, arts, service clubs, and interest clubs. Data were also disaggregated based on gender and ethnic differences.

Quantitative research methods were used to collect and analyze data in order to answer the four-research questions related to this study. Non-identifying archived data was collected from the senior classes of three North Carolina High Schools. An ANOVA was conducted to measure the statistical significance between participation in extracurricular activities and GPA and whether or not that relationship differed based upon a student's gender, ethnicity, and type of participation.

The results of the study show that there were statistically significant relationships between academic achievement and participation in extracurricular activities for both weighted and unweighted GPA, except for one subgroup. The subgroup of Other did not

show any statistical significance when measuring weighted and unweighted GPA and it's impact on student achievement. Implications of the study and suggestions for further research are presented.

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## Dedication

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## **Chapter 1: Introduction**

### **Rationale**

The quality of a student's high school experience can be cultivated through involvement in extracurricular activities. A student's connection to the many aspects of a school's culture often facilitates the development of school pride and personal responsibility. One of a school's primary means of developing school pride and personal responsibility is through active participation in co-curricular and extracurricular activities. There are many advantages for students who are actively engaged in school-sponsored activities outside of the classroom. Recent studies provide evidence supporting the idea that there are many benefits for students who participate in extracurricular activities (Burgess, 2009; Mahoney and Cairns as cited in Holloway, 1999; Sitely, 2001). Several compelling benefits to extracurricular participation include reducing dropout rates, building school connections, supporting at risk students, and promoting higher levels of academic achievement (Brown, 2000; Holloway, 1999).

“Much of the research into extracurricular activities suggests positive effects on students who participate. Those effects can be particularly important for students who belong to ethnic minorities, students with disabilities, and students at risk of dropping out of school” (Brown, 2000, p. 1). In 1997, Mahoney and Cairns linked engagement in school activities with decreasing dropout rates in both boys and girls. The study also indicated that marginal students who participate in school-sponsored extracurricular activities are provided with an opportunity to “create a positive and voluntary connection to their school” (Mahoney

& Cairns as cited in Holloway, 1999, p. 87). Involvement in extracurricular activities was shown to support the at-risk student by “maintaining, enhancing, and strengthening the student-school connection” (Holloway, 1999, p. 87).

Gerber (1996) reported that participation in extracurricular activities promotes a higher level of academic achievement. Gerber also discovered that “participation in school-related activities was more strongly associated with achievement than was participation in activities outside of school” (Gerber as cited in Holloway, 1999, p. 88). Students tended to have higher academic achievement levels when participating in school sponsored extracurricular activities. Extracurricular activities provided students of all ability levels an “academic safety net” (Holloway, 1999, p. 88). Through the connections and relationships formed with school and its personnel, students developed the necessary support system for improving academic achievement.

College admissions officers and educators regard active involvement in school activities as a high priority for a well-rounded student. The application process for college is highly competitive, and extracurricular participation is a way for students to differentiate themselves from other applicants (Thompson, 2008). Activities that exhibit leadership and communication skills inform admissions counselors about which applicants may be more qualified for admission (Sitley, 2001). Extracurricular participation often demonstrates commitment, character and work ethic, all of which are desired qualities of successful college students (Sitley, 2001).

There are many potential benefits to participation in extracurricular activities such as establishing relationships and building self-esteem (Burgess, 2009). The experiences gained from co-curricular and extracurricular involvement help to build and improve student

transcripts for college admissions (Burgess, 2009). Reeves (2008) linked extracurricular activities to student achievement,

We can make a strong case that the positive peer and adult relationships, organization, discipline, expectations, and other positive influences associated with extracurricular activities are likely to improve [academic] performance.

Expanding extracurricular activities carries little or no risk and has the potential for substantial gain. (p. 87)

Reeves's study indicated that students involved in extracurricular activities learned about the benefits of teamwork and accepting individual responsibility. Responsibility, discipline, and academic achievement are all vital components of a student transcript that influence college admission.

### **Problem Statement**

Despite the amount of research that has been conducted, few academic studies address the effects that participation in extracurricular activities has had on academic achievement based on the gender and/or ethnicity of the student. This study measured the statistical relationships that participation in extracurricular activities had on academic achievement, both aggregated across four types of participation and disaggregated on the basis of gender and ethnic differences. Is there a relationship that enhances academic learning, helps to close achievement gaps, and promotes equality among certain subgroups? This study collected and disaggregated data to determine potential relationships between types of extracurricular participation, gender, ethnicity, and academic achievement.

Extracurricular activities explored in this study-included athletics, arts organizations, such as band, chorus and drama, as well as service clubs like Interact, Key Club, and Health

Occupation Students of America. Other groups include interest groups that relate to activities such as Chess and Games Club and the Ultimate Frisbee Club.

### **Research Questions**

The direction of this study was guided by the following research questions:

1. Does participation in extracurricular activities have a statistically significant and positive relationship with student achievement?
2. Does participation in different types of extracurricular activities have statistically significant but differentiated relationships with student achievement?
3. Does participation in extracurricular activities have a statistically significant, but differentiated relationship with student achievement based on gender?
4. Does participation in extracurricular activities have a statistically significant, but differentiated relationship with student achievement based on ethnicity?

### **Significance of the Study**

This study explored whether participation in extracurricular activities had any statistically significant relationships with student achievement. Different facets of this relationship were studied based on gender, ethnicity, and types of participation. The gap in knowledge is to understand clearly the relationship between academic achievement and extracurricular participation. According to the College Board, GPA along with the SAT is used by college admissions officers to predict student success (College Board, 2012). Therefore, the linkage of this study with GPA is of great significance. If results of the study indicate significant positive relationships between participation, gender, and/or ethnicity in extracurricular activities on student achievement, a foundation will be made to advocate for, promote, and broaden opportunities for extracurricular involvement for all students,

particularly women and ethnic minorities. For school administrators at both the school and district levels, statistically significant and positive relationships, could lead school administrators to regard participation as another positive factor in extracurricular activities that contributes to better student achievement. Such a finding would indicate that participation in extracurricular activities could be used in schools as a means for closing the achievement gaps, and help “level the academic playing field” for participants, irrespective of gender or ethnicity. Curriculum and budgetary decisions often hinge upon increasing academic achievement. Hopefully, this study will enlighten high school administrators, school district superintendents, local boards of education, and policy-makers at the state level.

### **Definition of Key Terms**

1. Student Achievement: The achievement of a student within an academic setting, as measured by weighted and unweighted GPA calculations.
2. GPA: Grade Point Average For example-A given letter grade on an A-F grading scale is assigned a numerical value-A’s get 4 points; B’s get 3 points; C’s get 2 points; D’s get one point; and F’s get 0 points. A GPA is calculated by adding up the numerical values assigned to a student’s grades and then dividing that sum by the number of courses taken. The resulting quotient is the GPA. Thus, a student who takes 6 classes and receives an A in 2 classes (8 points), a B in 2 classes (6 points), and a C in two classes (4 points) would have a total of 18 points divided by 6 classes, yielding a GPA of 3.0.
3. WGPA: Weighted Grade Point Average is the assignment of a higher numerical value to grades in what is regarded as more difficult courses such as honors and

advanced placement. For example-using the above definition for GPA the two courses for which the students earned an A were designated as honors courses, each earning an additional point. Therefore, the 2 A's would now be worth 10 points, the total points would be 20, and the resulting WGPA would be 3.33.

4. Gender: Distinguishes male or female.
5. Ethnicity: A person's ethnic affiliation based on No Child Left Behind designation: White, Black, Hispanic and Other.
6. Extracurricular Activities: Those school-sponsored activities that take place outside of the academic school day such as athletics and interests clubs.
7. Co-Curricular Activity: A school-sponsored activity in which participation often involves both in- and out-of-school functions such as performing arts and honor societies.
8. Athletics: Various interscholastic events and teams as sanctioned by the North Carolina High School Athletic Association.
9. Arts Organization: A co-curricular organization where students perform a talent.
10. Service-based Clubs: Organizations in which students perform tasks for the betterment of others.
11. Interest Club: A club that is centered on an enjoyable activity or hobby of participants.

### **Organization of Study**

Chapter 1 introduced the rationale, defined the problem statement, and gave the significance of the study. Chapter 2 addresses the literature review of variables that impacts extracurricular participation and academic achievement. Chapter 3 presents the methodology

that is used in this study. Chapter 4 contains the findings of this study. Chapter 5 includes the analysis of the findings, their implications, and suggestions for further research.

### **Summary**

Participation in extracurricular activities affords many positive outcomes in the academic setting. Student participation in extracurricular activities helps to create positive school connections through increased student engagement outside of the classroom. A body of research also associates extracurricular participation with heightened academic achievement through the building of non-cognitive skills such as self-discipline and work ethic. These activities also help students establish their transcripts and increase opportunities for post-secondary admissions. Extracurricular curricular activities also help develop interpersonal and communication skills. The connections made by participating in extracurricular activities, helps students form relationships with mentors both within the school and in the community.

While there are many social and emotional benefits for students that participate in extracurricular activities, the statistical relationship between participation and academic achievement is important for educators in general, and school administrators in particular to understand. As achievement gaps between the subgroups of ethnicity and gender are often prevalent in academics, and school budgets are increasingly limited, it becomes necessary for schools to examine data and make informed decisions regarding which programs, courses, and activities offered by the school are most effective in closing achievement gaps and increasing academic achievement. This study examined the relationships formed between participation in extracurricular activities and academic achievement with particular respect to gender, ethnicity, and type of participation. Students' grade point averages were the

indicator of achievement of both participants and non-participants in the areas of athletics, service club, interest clubs, and performing arts.



## **Chapter 2: Review of Related Literature**

In organizing a critical analysis of the literature that defines extracurricular activities and their impact on academic achievement, it is important to understand the diverse facets of these activities. In order for students to feel successful and enjoy involvement, the activity must be based on student interest. Therefore, in order for high schools to have a positive impact on students with their involvement in extracurricular activities, they should have an “ear” for their students’ interests. “It is not enough for schools to provide resources: instead, in order to expect the benefits of extracurricular activity participation, they ought to also offer activities that match student interest and encourage students to participate in those activities.” (Stearns & Glennie, 2010, Conclusion section, para. 6). Simply offering extracurricular activities without the understanding from the group for which they are intended could potentially produce lackluster results.

The following four primary groups, that are a part of this study, define extracurricular involvement: (a) athletics, (b) arts based clubs, (c) service based organizations, and (d) interest clubs. These represent areas within the high school setting that typically provide avenues for student co-curricular and extracurricular engagement. It is important to understand the differences between these groups and to define the potential benefits of participation while targeting audiences for each group. The literature review for this study addresses the following areas: athletics, arts based clubs, service based clubs, interest based clubs, extracurricular participation and student achievement, and gender and ethnic differences and their relationship with extracurricular participation and student achievement.

With an increased degree of accountability and a decreased budget allotment many schools are being forced to make cuts within extracurricular programs. The findings of a study by Fredricks (2011) suggest,

that cutting these programs may be a short-sighted and misguided policy decision in fact, extracurricular programming may actually help schools in meeting the requirements of No Child Left Behind. Because of the potential academic benefits of participation in both the short and long-term, rather than cutting these programs, schools should encourage and support greater student involvement in extracurricular activities. (Fredricks, 2011, p.304)

The practice of non-cognitive skills such as communication and academic behavior is essential for student development. Participation in extracurricular activities provides additional support in the development of non-cognitive skills (Covay & Carbonaro, 2010). Learning to play a musical instrument or a new sport provides an avenue for self-discipline development. This same self-discipline will translate into improved study habits and an increased ownership in learning.

Participation in extracurricular activities creates a bridge between the academic and social aspects of education. A student's sense of belonging in school creates higher self-efficacy regarding academics and an increased emphasis on learning and education (Knifsend & Graham, 2012). Furthermore, "having a greater sense of belonging at school may promote adolescents' academic motivation, engagement, and achievement" (Knifsend & Graham, 2012, p. 380).

## **Athletics**

There have been several studies regarding athletics and the effect of participation on students in a variety of ways. Wild, Flisher, Bhana, and Lombard (2004) conducted research on how sports contributed to teenage self-esteem. They found that low sports self-esteem in girls led to smoking, drinking and even pregnancy. In boys, they found that those with low athletic self-esteem were more likely to fall victim to bullies. Low sports self-esteem occurred when a student felt unsuccessful in athletic participation. These effects occurred when they felt pressure from parents, coaches and peers when they were unable to meet those expectations. These feelings also appeared when they did not receive much playing time.

Parish and Williams (2007) found that some students benefited from athletics because they enjoyed being part of a group. Being part of a sports team provided these students with structure and camaraderie. Students enjoyed the atmosphere that being part of a team created, and the friendships and valuable life lessons such as teamwork, accountability, and reliability that were established. This social aspect was for many a way to feel successful, both athletically as well as socially. Social acceptance is a huge motivator in teenagers. Many found that being part of a team provided a way to be recognized and acknowledged. Bishop, Bishop, Gelbwasser, Green, and Zuckerman (2003) discovered “school norms influence peer harassment, student engagement in school, how students choose their crowd, and why crowds and schools have the norms they have” (p.146). School administrators have the ability to create and model school norms that cultivate extracurricular involvement while emphasizing the importance of academic achievement. Athletic teams provide an association for students that can set norms and can result in a positive impact on social interactions among participants. In a study by Broh (2002) that focused on participation in

extracurricular activities and academic achievements, student surveys were used to assess relationships between attitude and schoolwork. The results of this study indicated “participation in interscholastic sports promotes students developments and social ties among students, parents, and schools, and these benefits explain the positive effect of participation on achievement” (Broh, 2002, p. 69).

Barnett conducted research on competitive extracurricular activities and specifically concentrated on cheerleading and dance. She discovered some negative aspects of competitive extracurricular activities for those students that were not successful in their auditions,

Girls in the unsuccessful group consistently reported not liking school, and at levels significantly below what they had reported on both pre-outcome assessment... and members of the unsuccessful group never came back to baseline, and were always lower in their feelings about school than the successful girls. (Barnett, 2007, p. 336)

Barnett suggested that extracurricular activities tend to have a positive impact on academic achievement. She stated, “For girls who are not successful in their bid to become members of these types of school-sponsored teams, their feelings about themselves and about school, and their classroom performance were negatively impacted” (Barnett, 2007, p. 339).

Eccles and Barber (1999) used a questionnaire that compared athletic participation with other factors such as discipline, grades, attendance and courses taken. The researchers found that students who were involved in team sports were “more likely to be attending college full-time at age 21 than nonparticipants. . . .and that sports participation predicted an increase in liking school between 10<sup>th</sup> and 12<sup>th</sup> grades, a higher than expected 12<sup>th</sup> grade

GPA, and a greater than expected likelihood of being enrolled full-time college at age 21” (Eccles & Barber, 1999, p. 21).

### **Arts Based Clubs**

Some students do not show an interest in athletics but excel in areas of the performing arts such as choral music, instrumental music, and drama. For these students participation in these areas is just as rewarding as playing a sport is for athletes. There are many studies that have focused on the importance of music’s relationship with academic performance. Eady and Wilson (2004) analyzed several studies regarding the influence on student learning. A synopsis of their research indicated, “music can influence learning in core subjects as well as contribute to the attainment of core goals in learning” (p. 243). Rauscher as cited in Nichols (n.d.) contended that music improved intellectual capability of all children and was an important component of cognitive development.

A study conducted at Stanford University linked participation in the arts with academic achievement. According to the study, students who participate in after-school arts programs that involve activities such as singing, dancing, acting, and painting were more likely to have greater achievement in school and win academic awards. The research indicated that children participating in the arts “use linguistic and cognitive thinking skills -- such as long-term planning, critiquing and focused attention -- that can reap positive social and academic benefits” (Olszewski, 1998, p. 19). In a study by Turner (2010), which included interviews with principals and teachers, the results indicated that activities such as music and drama helped with the development of analytical and problem-solving skills (Turner, 2010).

According to a study of the 1995 SAT college admissions test scores, students who studied and participated in the arts for more than four years scored higher on the test than students who did not (Olszewski, 1998). The cognitive skills, relationships, and connections that were built through participation in school-sponsored performing arts club potentially contributed to a student's academic achievement, as indicated by research. In a study completed by Hodges and Luehresen, the use of student feedback was very enlightening. Students responded that "they saw music as a means of coping with the daily stresses of school, family, and relationships. . . .The concentration and hard work necessary for success in music develops self-discipline and impacts success both in and out of school" (Hodges & Luehresen, 2010, p. 77).

Fitzpatrick (2006) conducted research on participation in music and academic achievement. He also included socioeconomic status (SES) in his study. He found that music did indeed have an impact on academic achievement. He compared the Ohio Proficiency Test (OPT) of instrumental and non-instrumental students. "Results were compared with others of like SES on the subjects of citizenship, math, science, and reading. Results show that instrumental students outperformed non-instrumental students in every subject at every grade level" (Fitzpatrick, 2006, p. 73). Fitzpatrick suggested that more work needed to be done with statistical applications, as well as comparing regional studies on students and their socioeconomic status. He also suggested, a need to study the effects, of race and gender as it affects music participation and academic achievement (Fitzpatrick, 2006).

The research of Eccles, Barber, Stone, and Hunt (2003) which included a detailed analysis of adolescent involvement in five extracurricular activities contended that those

students involved in the performing arts were less likely to be involved in risky behaviors such as alcohol use. They additionally found that these students performed at higher levels in academic achievement. Those students who were involved in clubs were not found to have the risky behaviors toward alcohol and performed at higher levels in the academic arena.

Thornton conducted a study on the effect of music on test scores for the Pennsylvania System of School Assessment (PSSA). “It would seem that many Pennsylvania students who voluntarily participate in music programs such as band, choir, and orchestra perform significantly better on PSSA tests than students who choose not to participate in such activities” (Thornton, 2007, p. 6).

### **Service Based Clubs**

It is important to note that all students do not feel they have athletic abilities or talents with artistic expression. For those students, an alternative way to become part of the extracurricular community may be to join a service club that gives back to the community. High Schools have many service club organizations typically under the sponsorship of an adult service organization in the community.

Robert Needlman’s (2001) research in the area of extracurricular activities states:

Teens and preteens who devote themselves to service projects, such as food drives, book drives, or neighborhood improvement projects, learn that they can make a difference and contribute to society. They also learn teamwork and leadership skills that may be even more important in the long run than some of the academic subjects they study. (p. 1)

There are many service clubs in high schools across the nation. All of them address the important issue of creating involved, caring citizens. Participating in such organizations gives

students an understanding for helping others and provides them with a sense of accomplishment. These noted benefits could be of particular value for at-risk students. Opportunities that these activities provide had been associated with improving the sense of belonging and self-worth of the student and had also been associated with reduced discipline problems (Turner, 2010).

Service learning has the potential to impact a wide range of students. Academic progress such as improved standardized test scores and grade point averages as well as increased student engagement has been linked with participation in service-based activities (University of Michigan, 2005). Such activities may “increase a student’s sense of engagement or attachment to their school, and thereby decrease the likelihood of school failure and dropping out” (Finn as cited in O’Brien, E. & Rollefson, M., 1995, para. 1).

Using a qualitative methodology, Hruda, Fredricks, Alfed-Liro, and Eccles explored the influence of extracurricular participation in various extracurricular activities on adolescent development. This study revealed that participation in service organizations increased social contacts and improved social competence. (Hruda, Fredricks, Alfed-Liro, & Eccles, 1998).

A brief prepared by the National Collaboration for Youth (2011) stated that service based organizations are a “strategic partner with educators to ensure that every American child is ready for college, work and life” (p. 1). The atmosphere provided by service organization participation has a positive impact when compared to a regular school setting (National Collaboration for Youth, p. 1)



## **Interest Based Clubs**

Interest Clubs are organizations that appeal to hobbies and interests of students. These clubs may not have a national chapter, but are formed to provide activities for students that are of personal interest. There are many of these clubs across the nation, which are a direct result of student interest. For example, there are sports trivia clubs, chess and games clubs, clubs that address different kinds of diversity, science clubs, math clubs, and even knitting clubs. The key for success with these clubs is finding a faculty member with the same interest as the students. The social support provided by faculty members who sponsor such clubs has been associated with a decline of anti-social behaviors and depression and an increase in the expectations for academic achievement in high school boys and girls (Mahoney, Cairns, & Farmer, 2003).

“Participation in extracurricular activities, even those not obviously associated with academic achievement, apparently leads to increased commitment to school and school values, which leads to increased academic success” (Marsh, 1992, p. 560). Co-curricular clubs such as special-interest clubs traditionally have promoted a student’s sense of membership and engagement in school (U.S. Department of Education, 1995). Students participate in interest clubs because they enjoy the activities and feel they are worthwhile. “Intrinsic interest in challenging tasks is a model situation for learning and acquiring new skills” (Mahoney, Cairns, & Farmer, 2003, p. 412).

The current study explored the relationship among levels of participation in defined extracurricular activities and academic achievement. Previous studies supported findings indicating that involvement in extracurricular activities reflected positive impact on academic achievement. In an analysis of research regarding extracurricular participation in school age

children, Needlman (2001) found that, “many extracurricular activities teach real-world skills, such as journalism, photography, or debate, which can lead to lifelong interests, even careers. . . .Most studies find that children who participate in these activities are more successful academically than those who don’t” (p. 1).

### **Extracurricular Participation and Student Achievement**

Many studies have determined that extracurricular activities are a key to student social success, which is an important determining factor to academic achievement. Through a variety of choices in extracurricular activities, students have an opportunity to explore areas in which they are interested, which in turn, elevates student engagement. As previously defined, extracurricular activities are not just limited to athletics. Choices also include arts-based, service-based, and interest-based activities. Understanding how important it is to provide extracurricular activities to a diverse audience is critical to ownership of that activity. One of the components for taking the Scholastic Achievement Test (SAT) is for students to complete a Student Questionnaire. Part of this questionnaire asks students to indicate what type, if any, extracurricular activities in which they may be involved. One study on the effects of participation in extracurricular activities on SAT scores reported that “overall, and somewhat surprisingly, we see that the direct influence of students’ extracurricular activities on their SAT-V and SAT-M scores is larger than the influence of their academic achievement levels” (Everson & Millsap, 2004, p.164). This finding indicated that extracurricular participation had a greater impact on cognitive ability than more subjective or bias academic rankings such as grade point average and class rank. These authors further noted that the extracurricular activities in which students participated had a direct result on their performance on the SAT (Everson & Millsap, 2004).

Extracurricular activities provide students with growth opportunities that deal with leadership, working with others, and academic aspirations. Interested adults lead them, they are structured, they afford individual growth opportunities, and they provide lessons in teamwork. Due to the voluntary nature of participation, those students who choose these activities do so based upon their own self-interests. Mahoney, Cairns, and Farmer conducted a study on interpersonal competence through the use of interviews and school data. These results supported that these attributes contributed to student achievement and long-term academic success (Mahoney, Cairns, & Farmer, 2003). One defining category of student success was a measure of their academic achievement.

According to research, “a higher level of participation in activities like student government, drama, and journalism is associated with achieving higher grades and aspiring to higher levels of education” (Guest & Schneider, 2003, p. 103). As this research indicated, students who participated in high school extracurricular activities increased their participation in higher education. These students were focused on personal success and achievement. Higher education was a natural stepping-stone toward achieving their goals. “Participation in extracurricular activities may lead to improved attitudes toward school. Students who like school might work harder at their academic work and be less likely to leave a setting that they like” (Stearns & Glennie, 2010, para. 7). According to Stearns and Glennie,

Our results suggest that schools that provide more extracurricular activities and have more students participating have better academic outcomes in terms of performing at grade level and staying in school. Thus, extracurricular activities may help students become

engaged with learning and enhance a school's academic profile (Conclusion section, para. 10).

### **Gender Differences, Extracurricular Participation, and Student Achievement**

Eccles, Barber, Stone, and Hunt (2003) discovered that “girls participated more than boys in all types of activities except sports, where boys participated more than girls” (p. 869). When examining sports as an extracurricular activity, Eccles et.al. (2003) found that “female athletes were more likely than expected to have high proportions of academically-oriented friends; male athletes were not” ( p.877).

Feldman and Matjasko (2005) reported that in the case of both male and female students, athletic participation was positively related to plans to attend college. Among male students, the relation between activity participation and educational attainment was found to be independent of moderator variables such as socioeconomic status and academic ability. A male's friendships with academically successful students predicted increases in their own academic achievement, and friendships with socially active students predicted decreases in their achievement. Female athletes' sports participation predicted friendships with higher-achieving students and, to a lesser extent, friendships with more socially active students. Unlike male athletes, their friendships with socially active students did not predict decreases in their own academic performance (Feldman & Matjasko, 2005). An interesting question is why there is a difference for females and males: genetic predisposition, culture, or something else?

As found in the research by Mello and Worrell (2008), which involved a survey of high school students regarding extracurricular participation and academic achievement, “gender was significantly associated with both extracurricular activities and perceived life

chances. Males participated in more athletic activities than females, who participated in more artistic activities than males” (p. 97). It is important to determine whether there is an impact, or the kinds of impact, that involvement in extracurricular activities can have on academic achievement depending on the gender of participant.

### **Ethnic Differences, Extracurricular Participation, and Student Achievement**

In a study on extracurricular activities and SAT achievement, Everson and Millsap (2004) determined that “participating in extracurricular activities provides all students, including students from disadvantaged backgrounds, minorities, and those with otherwise less-than-distinguished academic achievements in high school, a measurable and meaningful gain in their college admission test scores” (p. 170). Fredricks and Eccles (2010) conducted a study involving self-selected eighth through eleventh graders. The results of the survey indicated, “participation in high school extracurricular activities also may be associated with positive academic adjustment over time because through participation youth have the opportunity to develop interpersonal competence and set goals, skills that are assumed to be critical to adult educational attainment” (p. 328). Pequero (2010) completed a study focusing on Latino students and their involvement in extracurricular activities. The research concluded, “as Latino students’ standardized test scores increased, the likelihood of their participation in school club activities increased” (p. 67).

Brown and Evans (2002) examined seven different ethnic categories and noted that, “ethnic group differences were not found for sports participation. Participation in sports appears to cut across ethnic boundaries and seems to have greater attraction and retention for minority students. Other categories did not reflect the same diversity of participation and may not maintain the same access or appeal as sports” (p. 52). One of the biggest hindrances

for the Hispanic population was their cultural difference. Hispanic females often were not expected to finish high school. Their differing cultural norms contributed greatly to a lessened participation rate in extracurricular activities when compared to other ethnic groups (Brown & Evans, 2002).

### **Conceptual Framework**

Student achievement is not innately formed. There are many factors that influence a student's capacity to achieve academically. Some stem from variables that are outside of the academic realm, while others are controlled within the school. In order to increase educational effectiveness, school administrators must have a conceptual understanding of the factors that help to build academic achievement.

One variable that has been associated with student achievement is socioeconomic status (SES). "Socioeconomic status is not only directly linked to academic achievement but also indirectly linked to it through multiple interacting systems, including students' racial and ethnic background, grade level, and school/neighborhood location" (Sirin, 2005, p. 420). Family SES determines many other contributors such as location of a student's neighborhood and school. It not only is an indicator of resources within the home but also includes "social capital" such as supportive parent-school relationships and positive societal norms and values, which are vital components of academic achievement (Sirin, 2005, p. 420). "The relationship between family SES and academic achievement is referred to in the literature as a socioeconomic gradient because it is gradual and increases across the range of SES" (Caro, McDonald, & Willms, 2009, p. 559). The gap in achievement between students of high and low socioeconomic statuses has devastating consequences. Students with a low SES tend to have poor skills that make them more likely to drop out of school at an early age. These

students are also less likely to take college preparatory classes and pursue post-secondary education (Caro, McDonald, & Willms, 2009, p. 559).

“The literature on achievement consistently has shown that parent education is important in predicting children’s achievement” (Davis-Kean, 2005, p. 294). The educational attainment of parents has an impact on beliefs and values that are placed on the education of their children. Parents with moderate to high educational backgrounds are more likely to hold expectations that are close to the actual performance of their children in school than those parents with lower educational attainment levels (Davis- Kean, 2005). There is also a link between weak educational backgrounds of parents and socioeconomic status. These two factors are sometimes present in a cycle of factors that create gaps in student achievement. Often families with low educational backgrounds or SES “do not value or understand formal education” which makes them “unprepared for the school environment” (Lacour & Tissington, 2011, p. 526)

While schools have no influence on the educational background or socioeconomic status of students or their parents, there are certain contributors to achievement that are potentially influenced within the academic setting. As stricter accountability demands are placed upon schools by federal, state, and local policies, it becomes important for educational leaders to understand the relationships that these characteristics have with academic achievement. Factors such as class and school size play a role in what and how well students learn (Darling-Hammond, 2000). Teacher quality also makes a difference in student learning. Students “who are assigned to several ineffective teachers in a row have significantly lower achievement and gains in achievement than those who are assigned to several highly effective teachers in sequence” (Darling-Hammond, 2000, p. 2). Teacher

effects on student achievement appear to be “additive and cumulative” (Darling-Hammond, 2000, p. 2). A teacher’s sense of efficacy and student achievement are highly correlated (Rosenholtz, 1985).

The research base for the Effective Schools Movement consisted of a body of research that supports the premise that “all children can learn when the school controls the factors necessary to assure student mastery” (Lezotte, 2001, p. 1). This movement defined effective schools as successful in educating all students regardless of SES or background (Lezotte, 2001). It’s *Learning for All* mission outlines seven correlates that guide an effective school (Lezotte, 2001):

- Instructional Leadership
- Clear and Focused Mission
- Safe and Orderly Environment
- Climate of High Expectations
- Frequent Monitoring of Student Progress
- Positive Home-School Relations
- Opportunity to Learn and Student Time on Task

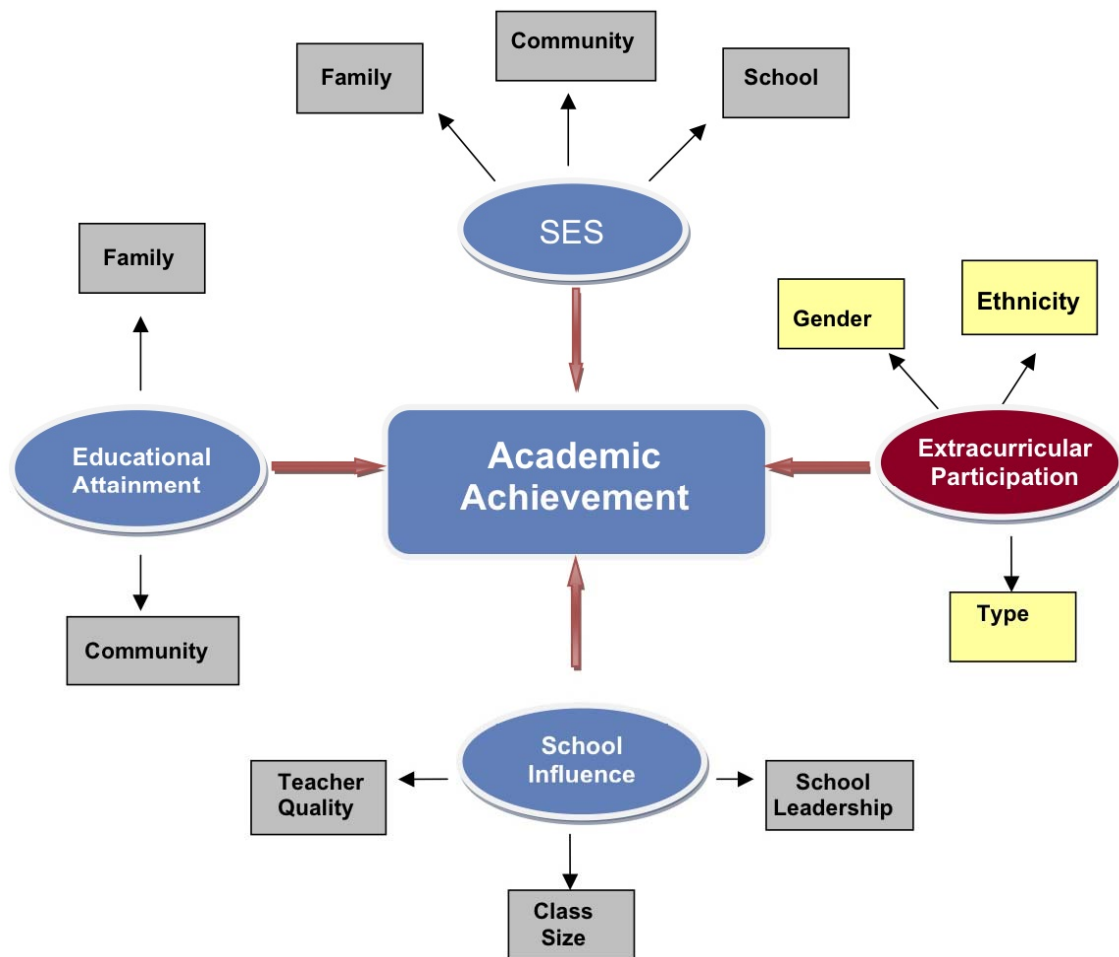
School leaders influence these correlates and many other school factors that contribute to academic achievement. “Effective school leaders can substantially boost student achievement” (Waters, Marzano, & McNulty, 2004, p. 48). Mid-continent Research for Education and Learning (McREL) performed a meta-analytic study that resulted in the finding that there is a substantial positive correlation between academic achievement and effective school leadership (Waters, Marzano, & McNulty, 2004). “Principals of effective



schools have a unitary mission of improved student learning and their actions convey certainty that these goals can be attained” (Rosenholtz, 1985, p. 352).

Another potential influence on academic achievement is participation in extracurricular activities. Much research has focused on the relationship between these two variables. With the increasing pressures of public schools to improve student achievement, it is important to know the effect that participation in school-sponsored activities might have on academic achievement. Participation is “associated with an improved grade point average, higher educational aspirations, increased college attendance, and reduced absenteeism” (Broh, 2002, p. 70). This study focused on extracurricular participation and its relationship with academic achievement in various subgroups.

Figure 1 is a conceptual framework model that indicates four contributing factors of academic achievement. These factors include socioeconomic status (SES), educational attainment, school influence, and extracurricular participation. As previously discussed all four of these factors have been shown to influence students’ academic achievement levels. This study focused on extracurricular participation in regards to gender, ethnicity, and type of participation and how those variables related to academic achievement. The contributing factor of extracurricular participation was placed on the right side of the model and was denoted in a different color to depict that this study intends to determine if extracurricular participation could be considered as a factor of the same potential impact as the other three factors. The right arm of this model is a conjecture and the intent of this study is to examine the right arm as a possible defined contributor to academic achievement.



**Figure 1:** Conceptual Framework Model

### **GPA Descriptor**

Traditionally high schools and colleges use a student’s grade point average as an indicator of academic achievement. Often grade point average is used as a predictor for standardized test scores and college success. There is significant evidence in literature indicating that high school grade point average and standardized tests such as the ACT, SAT, and state end-of-course tests are valid predictors of college success in all ethnic groups. (Hoffman & Lowitzki, 2005). According to a study at the University of California, “high school grade point average is consistently the strongest predictor of four-year college

outcomes for all academic disciplines” (Geiser & Santelices, 2007, p.1). The study also indicates that high school grade point average is a better indicator of achievement than standardized tests particularly for disadvantaged and underrepresented minority students (Geiser & Santelices, 2007).

### **Summary**

The current study examined the relationship between academic achievement and participation in extracurricular activities. Specific extracurricular activities and their impact on student achievement were researched. Only a few studies have examined whether participation in extracurricular activities based on either gender or ethnicity affects student academic performance. This study compared those students that are involved with extracurricular activities to those that are not. This research study sought to determine if there were significant differences in the academic achievement of extracurricular participants based on their ethnicity and gender.

## **Chapter 3: Methodology**

### **Introduction**

This study explored the relationship among types of participation in defined extracurricular activities and academic achievement. Previous studies supported findings that indicated involvement in extracurricular activities reflected positive impact on academic achievement. Needlman (2001) found that, “many extracurricular activities teach real-world skills, such as journalism, photography, or debate, which can lead to lifelong interests, even careers. . . .Most studies find that children who participate in these activities are more successful academically than those who don’t” (p. 1).

This chapter presents the rationale for and the application of quantitative methodologies in order to address the research questions. The parameters of the research study are examined along with an explanation regarding the selection of the participating schools, data collection, and analysis. Ethical considerations, trustworthiness, and delimitations are also reviewed.

### **Research Questions**

Through data collected, student achievement was compared to differing types of extracurricular engagement and in relation to ethnicity and gender. If a student was noted as a participant in extracurricular activities, then the types of involvement were categorized based on athletics, non-athletic participation such as arts programs, and participation in service and interest organizations. Essentially, the results of this study provided data that helped to

determine if participation based on a specific type of activity was related to student achievement.

The four major questions that guided this study are:

1. Does participation in extracurricular activities have a statistically significant and positive relationship with student achievement?
2. Does participation in different types of extracurricular activities have statistically significant, but differentiated relationships with student achievement?
3. Does participation in extracurricular activities have a statistically significant, but differentiated relationship with student achievement based on gender?
4. Does participation in extracurricular activities have statistically significant, but differentiated relationship with student achievement based on ethnicity?

### **Rationale for Quantitative Research**

John Creswell's (2003) work on research design stated:

Examining the relationships between and among variables is central to answering questions and hypotheses through surveys and experiments. The reduction to a parsimonious set of variables, tightly controlled through design or statistical analysis, provides measures or observations for testing a theory. Objective data result from empirical observations and measures. Validity and reliability of scores on instruments, additional standards for making knowledge claims, lead to meaningful interpretations of data (p.153).

Janet Holt (2009) contended, "an important aspect of quantitative research is objectivity, and therefore researchers using quantitative methods must believe that the subject of interest can be objectively measured given the right instruments and conditions" (p. 234).

In this study, I used a quantitative research approach to look at the effects of extracurricular activities and their relationship with student achievement, particularly on weighted and unweighted grade point averages. I chose this approach due to its reliability and objective nature. Quantitative research does not involve emotions, opinions, and beliefs. It tells its own story through the data collected and the analysis of those data.

A data collection plan was employed to organize the data into the cells that would be used in the actual analysis. That data collection plan is represented in Appendix C and Appendix D.

An examination of the relationship of participation and non-participation in extracurricular activities with academic achievement in three North Carolina high schools was conducted. The study explored the grade point average of both participants and non-participants based on the subgroups of gender, ethnicity, and participation in various types of activities for high school seniors.

Through a quantitative approach several research methods could be applied. Hohmann (2005) a leading expert on quantitative research, explained, “Examples of quantitative methods now well accepted in the social sciences and education include:

- Surveys;
- Laboratory experiments;
- Formal methods such as econometrics;
- Numerical methods such as mathematical modeling” ( para. 2).

This study used numerical methods to determine the relationship between participation and academic achievement observed in those students that were involved in extracurricular activities. Independent variables included the various subgroups defined to

impact student achievement, including gender, ethnicity, and types of extracurricular participation. The dependent variables were the student's cumulative and weighted grade point average.

In order to address the four guiding questions, data were collected on students that (a) participated in athletic extracurricular activities, (b) participated in non-athletic extracurricular activities such as the arts, student interest, and service-based clubs, and (c) did not participate in any extracurricular activities.

The statistical tool I used to determine the various relationships between participation in extracurricular activities and GPA was an analysis of variance (ANOVA). Therefore, the relationship coefficients tested in the study were reported as F values. These are the values that were used to determine statistical significance. It was important to note that differing degrees of freedom could influence whether or not a particular F value ended up as statistically significant or not.

### **Role of Researcher**

In quantitative studies, researchers advance the relationship among variables and pose this relationship in terms of questions or hypotheses. Being objective is an essential aspect of competent inquiry, and for this reason researchers must examine methods and conclusions for bias (Creswell, 2003). My role as a researcher was to make sure that I remained objective with my data. School administrators of selected schools collected non-identifiable archived data regarding gender, ethnicity, and grade point average, as well as types of club participation. The data collected focused on the 2011-2012 senior class at the identified schools. The identifiable information was removed to protect the confidentiality of all students prior to submission. Provided data were kept in an area with limited public access

on a password-protected computer. Data were collected anonymously and files will be destroyed after three years. These safeguards removed any possibility of researcher bias being introduced in the data analysis. I ran statistical programs that generated the results of the study. “Researchers and their biases are not known to participants in the study, and participant characteristics are deliberately hidden from the researcher” (Lichtman, 2006, p.7).

### **Ethical Considerations**

It was essential that I adhered to the high standards of ethics and was consistent with the guidelines of the Internal Review Board (IRB).

A critical component of being a responsible quantitative researcher is fulfilling our ethical obligations to both the research participants and the consumers of our research. . . .In addition to our responsibilities to research participants, we have a ethical responsibility to the research community to report findings fully, responsibly, and truthfully. (Nielson, 2011 p. 88)

It was imperative that the participating schools and the data collected from those schools were protected from any unethical situations. At no time did I have the data with identifiable information; as such indicators were removed at the school level before that information was sent to me. The data collection process was clearly presented to the Institutional IRB and the application was approved.

### **Data Collection**

Research regarding extracurricular participation was conducted at the twelfth grade level in three high schools. These high schools were based on a convenience sample. The schools were assigned pseudonyms to protect privacy: High School A, High School B, and High School C. These three schools, while comparable in size and geographic location, had



differing levels of diversity. It is important to note that the study started with four schools and the researcher had agreements with all four principals. However, one of the schools failed to fulfill the agreement and refused to meet deadlines and provide usable data. Frequent communication with the principal was attempted with little positive results. Therefore, that school had to be dropped from the study.

High School A was located in a western North Carolina county. It was a suburban high school that had a student body 1035 students. High School A had 36% of its student body eligible for free and reduced lunch. The make-up of the school was 57% White, 32% Black, 5% Hispanic, 2% Asian, and 4% Unknown. District expenditure per pupil was \$12,348 (Public School Review, 2011a).

High School B was located in the foothills of North Carolina. It was a rural high school that had a student body of 962 students. High School B had 36% of its student body eligible for free or reduced lunch. The makeup of the school was 83% White, 4% Black, and 13% Hispanic. District Expenditure per pupil was \$11,776 (Public School Review, 2011b).

High School C was located in southwest North Carolina. It was a suburban school that has a student body of 750 students. High School C had 47% of its student body eligible for free or reduced lunch. The makeup of the school was 58% White, 25% Black, 12% Hispanic, and 5% Asian. District expenditure per pupil was \$10,293 (Public School Review, 2011c).

### **Gaining Access**

Data collection was completed in the summer of the 2011-2012 school year. This timing allowed the data collectors to have a better idea about the kinds of activities in which the students were involved, and allowed for a reasonable timeframe for GPA calculation,

which was the sole indicator of academic achievement in this study. After the data regarding participation, gender, ethnicity, and weighted and unweighted GPA had been collected and analyzed, each school was provided with the results. At that point, a determination was made if students that were participants in extracurricular activities had a higher GPA when compared to those that did not participate.

### **Contacting Participants**

Contacts were made with the principals at each school to assist in the data collection process. It was important to note that the researcher would not be doing any collection of raw data from participating schools. Data collected were separated according to each area as listed above. The data collectors at each school assigned students an identifying number. This number shielded the student's identity.

### **Data Collection Form**

The data collection forms (Appendix C and Appendix D) for the research were custom designed spreadsheets that assigned a numerical value to indicate differing characteristics. For example, a student's gender was charted with a "1" for a male and a "2" for a female. Likewise, the numbers 1-4 denoted whether a person participated in athletics, performing arts, service organizations, or interest clubs. This method for collecting data was compatible with the statistics software used to calculate relationships through an ANOVA analysis.

### **Design of the Study**

Data for the study were collected on high school seniors at three participating schools. High school seniors were selected because their gaps could no further be influenced in any manner. A principal designee used the instruments (Appendix C and Appendix D) provided

to organize the collected data. For each student in the study, the following data were collected:

- School
- Type of Participation
- Gender
- Ethnicity
- GPA
- Weighted GPA

Results indicated whether participants in extracurricular activities outperformed non-participants in academic achievement. Results were reported based on gender, ethnicity, and type of participation.

### **Data Analysis**

Once data had been collected for each student in the sample, organized by an identifying number, comparisons were made. A framework for comparisons was then constructed using an ANOVA procedure from the statistical software Statistical Package for the Social Sciences (SPSS). This ANOVA indicated any discrete main effect differences. The tables generated by the ANOVA were examined more thoroughly to determine what significant relationships were revealed in the data. A ninety-five percent level of confidence was accepted as indicating a statistically significant relationship. This confidence level suggested that any relationship that yielded an F value that was at the .05 or lower level of significance met the criterion for statistical significance.

Through a careful data collection process and statistical analysis, this study determined if there were significant relationships between participation in extracurricular

activities and GPA and whether or not that relationship differed based upon a student's gender, ethnicity, and type of participation.

### **Trustworthiness**

According to Nielson (2011) "This responsibility is best met by exercising due diligence when operationalizing constructs, fully reporting all relevant indicators of how well the variables represent these constructs (e.g., reliability coefficients, confidence intervals), ethically interpreting the numbers generated, and then reporting the results with an abundance of care" (p.89). Beauchamp and Childress (2001) also identified four moral rules that were both closely connected to each other and with the principle of autonomy. They were veracity (truthfulness), fidelity (loyalty and trust), confidentiality and privacy.

Due diligence was made to make sure that the trustworthiness of the data was upheld by complying with IRB regulations. Data was not gathered from the home school of the researcher. Rather non-identifiable achieved data was collected from three other high schools in an effort to maintain truthfulness and confidentiality.

### **Delimitations**

Delimitations were used to confine the breadth of the research. This study focused on 2012 high school seniors at the three selected North Carolina High Schools. This study did not use data from previous years nor did it focus on other students within the three schools.

### **Summary**

Through data collected, student achievement was analyzed based upon differing types and levels of extracurricular engagement. If a student was noted as a participant in extracurricular activities, then the types of involvement were categorized based on athletics, non-athletic participation such as athletics and arts programs, and participation in service and

interest organizations. Essentially, the results of this study provided data that helped to determine if participation based on a specific type of activity was related to student achievement.

An accurate data collection plan was detailed using quantitative research procedures. An examination of the relationship of participation and non-participation of activities in three North Carolina high schools was conducted. The study explored the grade point average of both participants and non-participants based on the subgroups of gender, ethnicity, and various types of activities for high school seniors.

## **Chapter Four: Findings of the Study**

This study examined the statistical relationship between extracurricular participation and academic achievement as measured by unweighted and weighted grade point averages (GPA). Data were categorized by four types of participation; athletics, service clubs, arts clubs, and interest clubs. Data were also disaggregated on the basis of gender and ethnic differences. The study used data collected from 2012 senior class membership in three high schools located in diverse settings in North Carolina. I made comparisons between those members who participated in extracurricular activities and those that did not.

The first research question focused on whether participation in extracurricular activities had a statistically significant and positive relationship with student achievement. To address this question I used an Analysis of Variance (ANOVA) between general participation and extracurricular activities and student achievement based on both weighted and unweighted grade point average (GPA). The second research question analyzed the effect of participation in different types of extracurricular activities on student achievement. The second question was evaluated with an ANOVA comparing student participation in athletics, arts clubs, interest clubs, and service clubs with student achievement based on both weighted and unweighted GPA. The third research question focused on the relationship between extracurricular participation and student achievement based on gender. The final research question intended to analyze the relationship between extracurricular participation and student achievement based on differences in ethnicity. The third and fourth questions were addressed using an ANOVA that compared the statistical relationship between

participation in extracurricular activities with student achievement, further disaggregated by gender and ethnicity. Table 1 summarizes the total number of members in each senior class and the number of participants and non-participants in extracurricular activities. The table also breaks down the number of participants by type for each school.

**Table 1.** Total Number of Observations by Category

School	Number in Senior Class	Total participants	Service	Athletics	Arts	Interest clubs	Non- participants
School A	246	131	87	54	40	5	115
School B	225	90	70	20	13	13	135
School C	152	84	60	31	10	1	68
Total	623	305	217	105	63	19	318

### Effects of Extracurricular Participation on Student Achievement

Tables 2 and 3, which show the ANOVA results for weighted and unweighted GPA's, illustrate the statistical relationship between extracurricular participation and student achievement and provide answers to my first research question. Therefore, these differences were statistically significant at the .01 level of confidence or lower. As noted in the descriptives the average weighted GPA for a non-participant was 2.85 while the average weighted GPA for a participant was 3.50. These data indicated that there was a positive difference for students that participated in extracurricular activities. A participant had an average weighted GPA that was .65 points higher than a non-participant. Likewise, the average unweighted GPA for non-participants was 2.68 as compared to an average unweighted GPA of 3.10 for participants. These results indicated a positive increase of .42 for students who participated in extracurricular activities. The results further indicated that

the relationships between extracurricular participation and student achievement were statistically significant, when compared to both unweighted and weighted GPA's (Sig < .01).

**Table 2.** ANOVA Results for Extracurricular Participation and Weighted GPA

Descriptives					
	N	Mean	Std. Deviation		
Non-Participant	318	2.85	.76		
Participant	305	3.50	.85		
Total	623	3.17	.87		

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	67.33	1	67.330	103.304	≤.01*
Within Groups	404.745	621	.652		
Total	472.075	622			

**Table 3.** ANOVA Results for Extracurricular Participation and Unweighted GPA

Descriptives					
	N	Mean	Std. Deviation		
Non-Participant	318	2.68	.62		
Participant	305	3.10	.60		
Total	623	2.89	.64		

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	26.906	1	26.906	71.6	≤.01*
Within Groups	233.174	621	.375		
Total	260.080	622			

This study's conceptual framework was premised on the possible connection between extracurricular participation and student achievement. That was the focus of my first research question. As these results indicated, there was a statistically significant relationship between the dependent and independent variables. The answer to my first research question



was that participation in extracurricular activities does have a statistically significant and positive relationship with student achievement.

### **Effects of Participation in Different Types of Extracurricular Activities on Student Achievement**

Tables 4 through 11 are related to the second research question, which determined if significant relationships occurred between the types of extracurricular participation and weighted and unweighted GPA. These tables address differences by participation in athletics, service clubs, the arts, and interest clubs respectively.

Tables 4 and 5, represent the ANOVA results for both weighted and unweighted GPA's for participants and non-participants in athletics. The average weighted GPA for non-athletes was 3.02 as compared with an athletes weighted average GPA of 3.45. This calculation indicated an average positive increase in weighted GPA of .43 for athletes. The average unweighted GPA for athletes was 3.07 and the average unweighted GPA for non-athletes was 2.79. A positive increase of .28 was measured for athletes. The ANOVA results showed there were statistically significant relationships between academic achievement and participation in athletics for both weighted and unweighted GPA ( $\leq .01^*$ ).

**Table 4.** ANOVA Results for Extracurricular Participation in Athletics and Weighted GPA

Descriptives					
	N		Mean		Std. Deviation
Athlete	217		3.45		.84
Non-Athlete	406		3.02		.84
Total	623		3.17		.87
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	26.104	1	26.104	36.349	≤.01*
Within Groups	445.971	621	.718		
Total	472.075	622			

**Table 5.** ANOVA Results for Extracurricular Participation in Athletics and Unweighted GPA

Descriptives					
	N		Mean		Std. Deviation
Athlete	217		3.07		.60
Non-Athlete	406		2.79		.65
Total	623		2.89		.64
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10.923	1	10.923	27.225	≤.01*
Within Groups	249.157	621	.401		
Total	260.080	622			

Tables 6 and 7 indicated the ANOVA analysis results for participation in service clubs and student achievement. The literature suggested a positive relationship between academic achievement and service club participation. According to a publication from the University of Michigan (2005) participation in service-based activities had been linked to improved test scores and grade point averages. This study also supported the findings of the University of Michigan as indicated by both weighted and unweighted GPA. The mean

weighted GPA for students who participated in service clubs was 4.13 as compared with non-participants with the mean GPA of 2.98. These data indicated a positive difference of 1.15 in weighted GPA for service club participants. Likewise, the unweighted GPA of service club participants indicated a positive difference of .73. This difference was calculated from the mean unweighted GPA of 3.49 for students that participated in service clubs and 2.76 for non-participants. The results showed statistically significant relationships between academic achievement and participation in service clubs for both weighted and unweighted GPA ( $\leq .01^*$ ).

**Table 6.** ANOVA Results for Extracurricular Participation in Service Clubs and Weighted GPA.

Descriptives					
	N	Mean	Std. Deviation		
Service Club	104	4.13	.59		
No Service	519	2.98	.78		
Total	623	3.17	.87		

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	115.33	1	115.402	200.926	$\leq .01^*$
Within Groups	356.673	621	.574		
Total	472.075	622			

**Table 7.** ANOVA Results for Extracurricular Participation in Service Clubs and Unweighted GPA.

Descriptives					
	N		Mean		Std. Deviation
Service Club	104		3.49		.41
No Service	519		2.76		.61
Total	623		2.89		.64

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	45.435	1	45.435	131.450	≤.01*
Within Groups	214.645	621	.346		
Total	260.080	622			

Tables 8 and 9 indicated the ANOVA results for weighted and unweighted GPA for students who participated in the arts. Some research literature indicated a positive relationship with participation in the arts and academic achievement. A study conducted at Stanford University indicated that students who participated in afterschool arts programs were more likely to have greater achievement in school and win academic awards (Olszewski, 1998). The results of this study supported those findings as a positive difference of .49 was calculated when comparing the weighted GPA of art participants with non-participants. The mean weighted GPA for students who participated in the arts was 3.61 and 3.12 for non-participants. A similar trend was noted with unweighted GPA. The mean unweighted GPA for students who participated in the arts was 3.13 and for non-participants the mean unweighted GPA was 2.86. A positive difference of .27 was reflected for students who participated in the arts. According to the results, statistically significant relationships existed between academic achievement and participation in the arts for both unweighted and weighted GPA ( $\leq .01^*$ ).

**Table 8.** ANOVA Results for Extracurricular Participation in Arts and Weighted GPA.

Descriptives					
	N		Mean		Std. Deviation
Arts	61		3.61		.81
No Arts	562		3.12		.86
Total	623		3.17		.87
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	13.179	1	13.179	17.835	≤.01*
Within Groups	458.896	621	.739		
Total	472.075	622			

**Table 9.** ANOVA Results for Extracurricular Participation in Arts and Unweighted GPA.

Descriptives					
	N		Mean		Std. Deviation
Arts	61		3.13		.58
No Arts	562		2.86		.64
Total	623		2.89		.64
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.063	1	4.063	9.855	≤.01*
Within Groups	256.018	621	.412		
Total	260.080	622			

Tables 10 and 11 exhibit the ANOVA results for weighted and unweighted GPA's of students who participated in extracurricular activities based on interest. A body of research had linked a positive relationship with participation in interest clubs and academic achievement. Participation in such clubs had been associated with a decline of antisocial behaviors and an increase in the expectations for academic achievement for high school boys and girls (Mahoney, Cairns, & Farmer, 2003). This study resulted in findings that concurred

with Mahoney, Cairns, & Farmer as a positive difference in both weighted and unweighted GPA was reflected for participants in interest clubs. The mean weighted GPA for students who participated in interest clubs was 3.96 while the mean weighted GPA for non-participants was 3.14. These measures indicated a positive difference of .82 in the weighted GPA of interest clubs participants. The mean unweighted GPA for interest club participants was 3.44 and the mean unweighted GPA for non-participants was 2.87. These numbers indicated a positive difference of .57 in the weighted GPA of participants in interest clubs. The results of this study indicated statistically significant relationships between academic achievement and participation in interest clubs for both unweighted and weighted GPA ( $\leq .01^*$ ).

**Table 10.** ANOVA Results for Extracurricular Participation in Interest Clubs and Weighted GPA.

Descriptives					
	N		Mean		Std. Deviation
Interest Club	19		3.96		.59
No Interest Club	604		3.14		.86
Total	623		3.17		.87

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	12.259	1	12.259	16.556	$\leq .01^*$
Within Groups	459.816	621	.740		
Total	472.075	622			

**Table 11.** ANOVA Results for Extracurricular Participation in Interest Clubs and Unweighted GPA.

Descriptives					
	N		Mean		Std. Deviation
Interest Club	19		3.44		.35
No Interest Club	604		2.87		.64
Total	623		2.89		.64

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.073	1	6.073	14.846	≤.01*
Within Groups	254.008	621	.409		
Total	260.080	622			

My second research question examined the relationship between participation in different types of extracurricular activities with student achievement. The results of the different analysis indicated that there were statistically significant relationships between academic achievement and participation in the types of the extracurricular activities addressed in this study for both weighted and unweighted GPA. Therefore, the answer to research question two is yes.

**Effects of Extracurricular Participation on Student Achievement Based on Gender**

Data from the study were disaggregated on the basis of gender. Table 12 shows the total number of males and females in each of the three participating schools.

**Table 12.** Breakdown of Gender by School

	Male	Female
School A	119	127
School B	117	108
School C	85	67
<b>Total</b>	<b>321</b>	<b>302</b>

Table 13 displays the breakdown by school and gender of participants in extracurricular activities.

**Table 13.** Breakdown of Gender and Participation by School

	Male Participants	Female Participants
School A	65	66
School B	47	43
School C	49	35
<b>Total</b>	<b>161</b>	<b>144</b>

Tables 14 and 15 relate to research question three. This question guided the investigation to determine if gender differences can be found in the relationship between extracurricular participation and GPA. GPA was once again categorized by weighted and unweighted measures.

Tables 14 and 15 display the ANOVA results for weighted and unweighted GPA's and illustrated the statistical relationship between extracurricular participation and student achievement for males. The average weighted GPA for males who participated in extracurricular activities was 3.38 and the average weighted GPA for non-participants was 2.74. These results indicated a positive difference of .64 in average weighted GPA for males who participated in extracurricular activities. The average unweighted GPA for males who participated in extracurricular activities was 3.00 and the average unweighted GPA for non-participants was 2.59, resulting in a positive difference of .41 for the average unweighted GPA for male participants. The results indicated that the relationship between extracurricular participation and student achievement for males was statistically significant ( $\leq .01^*$ ).



**Table 14.** ANOVA Results for Extracurricular Participation and Weighted GPA for Males

Descriptives		N	Mean	Std. Deviation		
Weighted GPA	Non-Participant	160	2.74	.73		
	Participant	161	3.38	.87		
	Total	321	3.06	.86		
		Sum of Squares	df	Mean Square	F	Sig.
Weighted GPA	Between Groups	32.025	1	32.025	49.030	≤.01*
	Within Groups	208.361	319	.653		
	Total	240.386	320			

**Table 15.** ANOVA Results for Extracurricular Participation and Unweighted GPA for Males

Descriptives		N	Mean	Std. Deviation		
Unweighted GPA	Non-Participant	160	2.59	.60		
	Participant	161	3.00	.62		
	Total	321	2.79	.64		
		Sum of Squares	df	Mean Square	F	Sig.
Unweighted GPA	Between Groups	13.370	1	13.370	35.591	≤.01*
	Within Groups	119.833	319	.376		
	Total	133.203	320			

Tables 16 and 17 displayed the ANOVA results for weighted and unweighted GPA's and illustrated the statistical relationship between extracurricular participation and student achievement for females. The average weighted GPA for females who participated in extracurricular activities was 3.65. The average weighted GPA for non-participating females was 2.95. A positive difference of .70 was reflected in the weighted GPA for female

participants. The average unweighted GPA for female participants was 3.21 and the average unweighted GPA for non-participating females was 2.78. A positive difference of .43 was measured in the average unweighted GPA for female participants in extracurricular activities. The results indicated that the relationship between extracurricular participation and student achievement for females were statistically significant ( $\leq .01^*$ ).

**Table 16.** ANOVA Results for Extracurricular Participation and Weighted GPA for Females

Descriptives		N	Mean	Std. Deviation
Weighted GPA	Non-Participant	158	2.95	.78
	Participant	144	3.65	.80
	Total	302	3.28	.86

		Sum of Squares	df	Mean Square	F	Sig.
Weighted GPA	Between Groups	36.630	1	36.630	58.590	$\leq .01^*$
	Within Groups	187.557	300	.625		
	Total	224.188	301			

**Table 17.** ANOVA Results for Extracurricular Participation and Unweighted GPA for Females

Descriptives		N	Mean	Std. Deviation
Unweighted GPA	Non-Participant	158	2.78	.62
	Participant	144	3.21	.55
	Total	302	2.99	.63

		Sum of Squares	df	Mean Square	F	Sig.
Unweighted GPA	Between Groups	14.201	1	14.201	39.868	$\leq .01^*$
	Within Groups	106.862	300	.356		
	Total	121.064	301			

My third research question studied the relationship between participation in extracurricular activities and student achievement based on gender. According to the ANOVA results, there were statistically significant relationships between academic achievement and participation in extracurricular activities based on gender. Therefore the answer to research question three is yes.

**Effects of Extracurricular Participation on Student Achievement Based on Ethnicity**

Data were disaggregated on the basis of ethnicity. Table 18 shows the ethnic composition of each subgroup studied in each of the three participating schools.

**Table 18.** Breakdown of Ethnicity by School

	White	Black	Hispanic	Other
School A	138	76	15	17
School B	211	2	0	12
School C	87	37	23	5
<b>Total</b>	<b>436</b>	<b>115</b>	<b>38</b>	<b>34</b>

Table 19 displays the breakdown by school and gender of participants in extracurricular activities.

**Table 19.** Breakdown of Ethnicity and Participation by School

	White Participants	Black Participants	Hispanic Participants	Other Participants
School A	78	36	8	9
School B	88	0	0	2
School C	56	18	8	2
<b>Total</b>	<b>222</b>	<b>54</b>	<b>16</b>	<b>13</b>

Tables 20 through 27 examined the statistical relationship between extracurricular participation and GPA, differentiated by ethnicity. White students, black students, Hispanic students and others differentiated the ethnic differences being examined. All of these results were intended to answer the final research question of my study.

Tables 20 and 21, showed the ANOVA results between weighted and unweighted GPA's for white students. The results for unweighted GPA for white students indicated a statistically significant difference with extracurricular activities. The average weighted GPA for white participants was 3.70 and the average weighted for white non-participants was 3.01. These results reflected a positive difference in weighted GPA for white participants of .69. The average unweighted GPA for white participants and extracurricular activities 3.25 and the average unweighted GPA for white non-participants were 2.82, which indicated a positive difference of .43 for the average unweighted GPA for white participants. The results indicated that the relationship between extracurricular participation and student achievement for white students based on weighted GPA was statistically significant ( $\leq .01^*$ ).

**Table 20.** ANOVA Results for Extracurricular Participation and Weighted GPA for White Students

Descriptives		N	Mean	Std. Deviation		
Weighted GPA	Non-Participant	214	3.01	.74		
	Participant	222	3.70	.76		
	Total	436	3.36	.82		
		Sum of Squares	df	Mean Square	F	Sig.
Weighted GPA	Between Groups	52.201	1	52.201	91.547	$\leq .01^*$
	Within Groups	247.471	434	.570		
	Total	299.671	435			

**Table 21.** ANOVA Results for Extracurricular Participation and Unweighted GPA for White Students

Descriptives		N	Mean	Std. Deviation	
Unweighted GPA	Non-Participant	214	2.82	.60	
	Participant	222	3.25	.52	
	Total	436	3.04	.60	

		Sum of Squares	df	Mean Square	F	Sig.
Unweighted GPA	Between Groups	20.629	1	20.629	65.074	≤.01*
	Within Groups	137.583	434	.317		
	Total	158.212	435			

Table 22 and 23 displayed the ANOVA results of extracurricular participation and academic achievement based on weighted and unweighted GPA's for black students. The mean weighted GPA for black students who participated in extracurricular activities was 2.78 and the mean weighted GPA for black students who did not participate was 2.36. A positive difference of .42 was reflected in the mean weighted GPA for black participants. The mean unweighted GPA for black students who participated in extracurricular activities was 2.56 and for black non-participants 2.30. A positive difference of .26 was reflected in the mean unweighted GPA for black participants. The results indicated that there were statistically significant differences for these students based on weighted GPA (.002) and unweighted GPA (.019)

**Table 22.** ANOVA Results for Extracurricular Participation and Weighted GPA for Black Students

Descriptives		N	Mean	Std. Deviation		
Weighted GPA	Non-Participant	61	2.36	.64		
	Participant	54	2.78	.78		
	Total	115	2.56	.74		
		Sum of Squares	df	Mean Square	F	Sig.
Weighted GPA	Between Groups	5.044	1	5.044	9.917	≤ .01*
	Within Groups	57.473	113	.509		
	Total	62.517	114			

**Table 23.** ANOVA Results for Extracurricular Participation and Unweighted GPA for Black Students

Descriptives		N	Mean	Std. Deviation		
Unweighted GPA	Non-Participant	61	2.30	.57		
	Participant	54	2.56	.59		
	Total	115	2.42	.59		
		Sum of Squares	df	Mean Square	F	Sig.
Unweighted GPA	Between Groups	1.921	1	1.921	5.626	≤ .05*
	Within Groups	38.593	113	.342		
	Total	40.515	114			

Table 24 and 25 displayed the ANOVA results of extracurricular participation and academic achievement based on weighted and unweighted GPA's for Hispanic students. The average weighted GPA for Hispanic participants in extracurricular activities was 3.34 and for Hispanic non-participants the average GPA was 2.65. A positive difference in average weighted GPA of .69 was measured for Hispanic participants in extracurricular activities. The average unweighted GPA for Hispanic students who participated in extracurricular

activities was 3.01 and for non-participants the average unweighted GPA was 2.49. These results indicated a positive difference in average GPA for Hispanic participants in extracurricular activities of .52. The results indicated that there were statistically significant for these students based on weighted GPA (.009) and unweighted GPA (.008).

**Table 24.** ANOVA Results for Extracurricular Participation and Weighted GPA for Hispanic Students

Descriptives		N	Mean	Std. Deviation		
Weighted GPA	Non-Participant	22	2.65	.71		
	Participant	16	3.34	.81		
	Total	38	2.94	.82		
		Sum of Squares	df	Mean Square	F	Sig.
Weighted GPA	Between Groups	4.430	1	4.430	7.696	≤.01*
	Within Groups	20.720	36	.576		
	Total	25.150	37			

**Table 25.** ANOVA Results for Extracurricular Participation and Unweighted GPA for Hispanic Students

Descriptives		N	Mean	Std. Deviation		
Unweighted GPA	Non-Participant	22	2.49	.58		
	Participant	16	3.01	.51		
	Total	38	2.70	.60		
		Sum of Squares	df	Mean Square	F	Sig.
Unweighted GPA	Between Groups	2.451	1	2.451	7.859	≤ .01*
	Within Groups	11.227	36	.312		
	Total	13.678	37			

Tables 26 and 27 displayed the ANOVA results of extracurricular participation and academic achievement based on weighted and unweighted GPA's for students in the category of Other. The average weighted GPA for a participant in the category of Other was 3.33 and for a non-participant in this category the average GPA was 2.80. A positive difference of .53 in the weighted GPA was measured for students who participated in extracurricular activities in the category of Other. This category of ethnicity is an amalgamated category, consisting of all ethnicities not white, black, or Hispanic. The average unweighted GPA for participants in the category of Other was 2.84 and for non-participants the average unweighted GPA in this category was 2.63. A positive difference of .21 was measured in the unweighted GPA for students who participated in extracurricular activities in the category of Other. While positive differences were noted for participants with both weighted and unweighted GPA, the ANOVA results indicated no statistical significance for participation in extracurricular activities and academic achievement within this subgroup. The results indicated that there was no statistical significance for these students based on weighted GPA (0.66) and unweighted GPA (.308).

**Table 26.** ANOVA Results for Extracurricular Participation and Weighted GPA for Other Students

Descriptives

		N	Mean	Std. Deviation
Weighted GPA	Non-Participant	21	2.80	.66
	Participant	13	3.33	.95
	Total	34	3.00	.81

		Sum of Squares	df	Mean Square	F	Sig.
Weighted GPA	Between Groups	2.243	1	2.243	3.628	>.05
	Within Groups	19.788	32	.618		
	Total	22.032	33			



**Table 27.** ANOVA Results for Extracurricular Participation and Unweighted GPA for Other Students

Descriptives		N	Mean	Std. Deviation
Unweighted GPA	Non-Participant	21	2.63	.52
	Participant	13	2.83	.63
	Total	34	2.71	.56

		Sum of Squares	df	Mean Square	F	Sig.
Unweighted GPA	Between Groups	.346	1	.346	1.072	>.05
	Within Groups	10.339	32	.323		
	Total	10.685	33			

The results of the study indicated a statistically significant relationship for white students, black students, and Hispanic students who participated in extracurricular activities with weighted and unweighted GPA's. There were no statistically significant relationships in weighted and unweighted GPA's for the Other group. Perhaps an explanation for this finding was the lack of sufficient data points to indicate a statistically significant difference. The answer to my fourth research question was participation in extracurricular activities had a statistically significant positive relationship with weighted and unweighted GPA's for white students, black students, and Hispanic students, but did not show a statistically significant relationship between weighted and unweighted GPA's for the Other group.

### Summary

My study investigated the relationship between extracurricular participation and student achievement. Through the data collected from the 2012 senior class of three North Carolina high schools, participation was broken down into the categories of athletics, service clubs, the arts, and interest clubs. Data were also categorized based on ethnicity and gender. An ANOVA was used to determine if participation in extracurricular activities has a

significant and positive relationship with student achievement. For the purpose of this study, student achievement was measured by both weighted and unweighted GPA.

Data were collected and aggregated according to type of participation and disaggregated in the areas of gender and ethnicity. Consistent with many research studies this study found statistical significance or positive relationships between participation in extracurricular activities and student achievement, for all areas studied except for participation of Other students when academic achievement was measured by weighted and unweighted GPA's. Except for the single relationship in academic and participation in extracurricular activities for weighted and unweighted GPA's for Other students, the answers to all four of the research questions in this study were yes.

## **Chapter Five: Discussion and Implications**

In this study I examined the relationship between participation in extracurricular activities and academic achievement. Three North Carolina high schools in diverse geographic locations were participants in the study. Weighted and unweighted grade point average data were collected based on the 2012 senior class from each of these schools. I categorized the data according to type of participation in extracurricular activities as well as student ethnicity and gender. An ANOVA was used to measure any statistical significance between participation and GPA, both weighted and unweighted, in each of the categories.

### **Problem Statement**

Despite the amount of research that has been conducted, few academic studies addressed the effects that participation in extracurricular activities has had on academic achievement based on the gender and/or ethnicity of the student. This study measured the statistical relationships that participation in extracurricular activities had on academic achievement, both aggregated across four types of participation and disaggregated on the basis of gender and ethnic differences. Does this relationship enhance academic learning, help close achievement gaps, and promote equality among certain subgroups?

### **Review of Methodology**

As explained in Chapter 3, this study was a quantitative study that analyzed weighted and unweighted grade point average data to determine if participation based on a specific type of activity was related to student achievement.

The four questions that guided my study were:

1. Does participation in extracurricular activities have a statistically significant and positive relationship with student achievement?
2. Does participation in different types of extracurricular activities have statistically significant, but differentiated relationships with student achievement?
3. Does participation in extracurricular activities have a statistically significant, but differentiated relationship with student achievement, based on gender?
4. Does participation in extracurricular activities have a statistically significant, but differentiated relationship with student achievement, based on differences in ethnicity?

With a quantitative perspective, I decided that an ANOVA would be the best analytic tool to use to describe the relationship among the data points. This test measured the statistical relationship between extracurricular participation or not to weighted and unweighted GPA further broken down by type of participation, gender and ethnicity.

### **Summary of the Results**

**First research question: Participation and student achievement.** The ANOVA analysis revealed there were statistically significant relationships between extracurricular participation in student achievement based on both weighted and unweighted GPA ( $\leq .01$ ). The difference in the average weighted GPA between participants (3.50) and non-participants (2.85) was .65. The difference in the average unweighted GPA between participants (3.10) and non-participants (2.68) was .42. While there was a greater difference for weighted GPA, both measures of academic achievement were positively influenced by extracurricular participation. According to these numbers participation in extracurricular activities did have

a statistically significant and positive relationship with student achievement. The answer to the first research question was, therefore, yes.

**Second research question: Participation in different types of activities and academic achievement.** The results of my study indicated that there were statistically significant relationships between participation and non-participation in extracurricular activities based on type and academic achievement as measured by both weighted and unweighted GPA. The statistically significance measures for participation in athletics according to weighted and unweighted GPA's were  $\leq .01$  and  $\leq .01$  respectively. The difference in the average weighted GPA between athletes (3.45) and non-athletes (3.02) was .43. The difference in the average unweighted GPA between athletes (3.07) and non-athletes (2.79) was .71. While there was a greater difference for unweighted GPA, both measures of academic achievement were positively related to participation in athletics.

Participation in the arts also had a statistical relationship with weighted and unweighted GPA. The statistically significance measures for this type of participation were  $\leq .01$  and  $.002$  respectively. The difference in the average weighted GPA between participants in the arts (3.61) and non-participants (3.12) was .49. The difference in the average unweighted GPA between participants in the arts (3.13) and non-participants in the arts (2.86) was .27. While there was a greater difference for weighted GPA, both measures of academic achievement were positively related to participation in the arts.

Similar results were found when examining extracurricular participation in service clubs. The statistically significance measures for participation in these clubs according to weighted and unweighted GPA's were  $\leq .01$  and  $\leq .01$  respectively. The difference in the average weighted GPA between participants in service clubs (4.13) and non-participants in

service clubs (2.98) was 1.15. The difference in the average unweighted GPA between participants in service clubs (3.49) and non-participants (2.76) was .73. While there was a significantly greater difference for weighted GPA, both measures of academic achievement were positively related to participation in service clubs.

Participation in interest clubs had a statistically significant relationship with academic achievement with weighted and unweighted GPA according to the results of the analysis. The statistically significance measures for interest clubs were  $\leq .01$  for both weighted and unweighted GPA. The difference in the average weighted GPA between participants in interest clubs (3.96) and non-participants in interest clubs (3.14) was .82. The difference in the average unweighted GPA between participants in interest clubs (3.44) and non-participants in interest clubs (2.87) was .57. While there was a greater difference for weighted GPA, both measures of academic achievement were positively related to participation in interest clubs.

The results of my study concluded that participation in different types of extracurricular activities did have a statistically significance and positive relationship with GPA. Therefore, the answer to the second research question was yes.

**Third research question: Participation and gender.** The ANOVA analysis reflected a statistically significant relationship between participation and extracurricular activities in student achievement based on gender. The statistically significance measures for male participants were  $\leq .01$  and  $\leq .01$  for both weighted and unweighted GPA. The difference in the average weighted GPA between male participants (3.38) and male non-participants (2.74) was .64. The difference in the average unweighted GPA between male participants (3.00) and male non-participants (2.59) was .41.

The results for female participants were  $\leq .01$  for both weighted and unweighted GPA. The difference in the average weighted GPA between female participants (3.65) and female non-participants (2.95) was .70. The difference in the average unweighted GPA between female participants (3.21) and female non-participants (2.78) was .43.

The results of my study revealed that participation in extracurricular activities does have a statistically significant and differentiated relationship with student achievement based on gender. While there was a greater difference for weighted GPA for males and females, both measures of academic achievement were positively related to participation in extracurricular activities based on gender. The answer to my third research question is, therefore, yes.

**Fourth research question: Participation and ethnicity.** The data for my study were also disaggregated based on four categories of ethnicity: White, Black, Hispanic, and Other. For white students, black students, and Hispanic students there was a significant and positive statistical relationship for extracurricular participation in weighted and unweighted GPA's. The statistically significant measures for white students with weighted and unweighted GPA's were  $\leq .01$  and  $\leq .01$ . The ANOVA results for white students for extracurricular participation and weighted and unweighted GPA's indicated a statistically significant relationship between participation and academic achievement. The difference in the average weighted GPA between white participants (3.70) and white non-participants (3.01) was .69. The difference in the average unweighted GPA between white participants (3.25) and white non-participants (2.82) was .43. While there was a greater difference for weighted GPA, both measures of academic achievement were positively related to participation of white students.

For black students, the respective significance measures were .002 and .019. These findings indicated a statistically significant relationship between extracurricular participation and academic achievement for both weighted and unweighted GPA. The difference in the average weighted GPA between black participants (2.78) and black non-participants (2.36) was .42. The difference in the average unweighted GPA between black participants (2.56) and black non-participants (2.30) was .26. While there was a greater difference for weighted GPA, both measures of academic achievement were positively related to participation of black students.

The significance measures for Hispanic students with weighted and unweighted GPA's were .009 and .008, respectively. The ANOVA results for Hispanic students for extracurricular participation and weighted and unweighted GPA's indicated a statistically significant relationship between participation and academic achievement. The difference in the average weighted GPA between Hispanic participants (3.34) and Hispanic non-participants (2.65) was .69. The difference in the average unweighted GPA between Hispanic participants (3.00) and Hispanic non-participants (2.49) was .51. While there was a greater difference for weighted GPA, both measures of academic achievement were positively related to participation of Hispanic students.

For Other students the respective significance measures were .006 and .308. These findings indicated there was not a statistically significant relationship between extracurricular participation and academic achievement for both weighted and unweighted GPA. The difference in the average weighted GPA between participants in the Other category (3.32) and non-participants in the Other category (2.80) was .52. The difference in the average unweighted GPA between participants in the Other category (2.84) and non-participants in



the Other category (2.63) was .21. While there was a greater difference for weighted GPA, both measures of academic achievement were not positively related to participation of students in the category of Other.

### **Discussion of Findings**

This study found there were statistically significant relationships between academic achievement and participation in extracurricular activities except for one subgroup. The Other participants showed there were no statistically significant relationships with academic achievement based on weighted and unweighted GPA's. Perhaps an explanation for the lack of statistically significant differences lies in the fact that so few students fell into this category (13 participants and 21 non-participants). In an ANOVA analysis, when the N's are small, as they are here, there are fewer degrees of freedom, therefore requiring a correspondingly higher F value to reach statistical significance. In the category of Other reaching those statistically significant values would have required either more participants or much larger differences in GPA. In this study, neither was the case.

In a study by Eccles and Barber (1999) it was noted that participation in athletics predicted a higher than expected twelfth grade GPA. Likewise, Barnett (2007) suggested that extracurricular activities tend to have a positive impact on academic achievement. The findings in this study supported the findings from these earlier studies. There were statistically significant relationships found in this study between academic achievement and participation in extracurricular activities.

Research has indicated a positive relationship between participation in the arts and academic achievement. In the research conducted by Fitzpatrick (2006) it was concluded that music did indeed have an impact on academic achievement on a standardized state test.

Additionally, the research of Eccles, Barber, Stone, & Hunt (2003) indicated that students participating in performing arts performed at higher levels in the academic arena. The results of this study concurred with pasts' results. There were statistically significant relationships found in this study between academic achievement and participation in the arts.

Needlman's (2001) research implied that the skills obtained by participation in service projects could impact the academic achievement of students. Likewise, Needlman (2001) found that participation in interest clubs such as journalism, photography and debate increases student's likelihood to be academically successful when compared to those who did not participate. Likewise, there were statistically significant relationships found in my study between academic achievement and participation in extracurricular activities in service clubs and interest clubs for both weighted and unweighted GPA. The results of this study indicated that the greatest positive difference in GPA for the four categories of extracurricular participation occurred in the measure of weighted GPA for participants in service clubs.

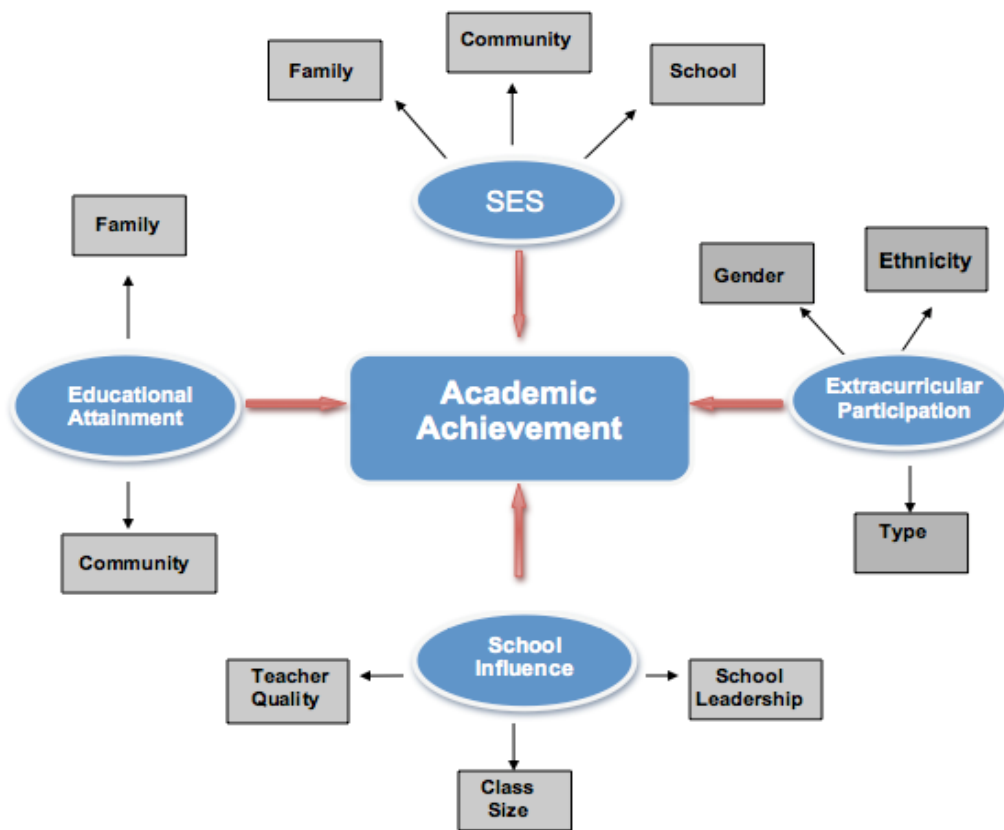
In every instance, differences in weighted GPA were greater than unweighted GPA. While my study found statistical significance in all but two instances, comparative differences favored weighted GPA. So, why might that be so? The answer might lie in describing who typically takes courses that yield weighted grade point averages. These students are more academically able, perhaps better time managers, and typically students with a higher achievement motivation than those who do not take courses with weighted grades.

In the gender-based analysis, GPA differences between participants and non-participants were pretty close. In the weighted category, the GPA differences for males was .64 and for females, .70. In the unweighted category, the GPA differences for males was .41

and for females, .43. These findings support the case that young women who participate and achieve break a stereotype about gender differences that has persisted over a long period of time.

### **Implications of the Study**

The academic achievement model in Figure 1 indicated three contributing factors of academic achievement: socioeconomic status (SES), educational attainment, and school influence. All three of these factors have been shown to influence student's academic achievement in prior research. Due to this study I am able to suggest an adjustment to this framework. Extracurricular participation can now be regarded as a possible contributor to higher academic achievement. Further, the three disaggregates of ethnicity, gender, and types of participation have also proven to contribute to statistical significance in this study. This study did show that participation in extracurricular activities had a positive and significant impact on academic achievement. Therefore, the Conceptual Framework model was adjusted. In the original model (p. 26), the boxes at the right side of the model were colored differently than the other established influences on student achievement. In this adjusted model (Figure 2, p. 68), based on the results of this study, the boxes on the right side of the model have identical coloring as the other influential factors, thereby suggesting that participation in extracurricular activities can be considered as a contributing influence on student achievement. Moreover, this is a factor that lies, in large measure, in the school's control.



**Figure 2:** Adapted Conceptual Framework Model

The data gathered in my study can be beneficial for high school principals anywhere as they struggle to find ways to influence student achievement. This study provides compelling evidence for high school principals to advocate for extracurriculars, not just for the intrinsic values to the students and the school, but because participation can be seen as a contributor and not a distraction to student achievement. For those principals who are struggling to close the achievement gap, there is evidence in this study that supports the idea that achievement gaps are related positively for all students who participate in some form of extracurricular activities, but particularly students who are in underserved populations.

Superintendents and school boards looking for places to cut budgets can use this study to understand the positive effects of extracurricular activities on student’s achievement,

and not deny access to opportunities to enhance student achievement. While this study shows that participation can help rather than hinder getting higher grades, it does not examine the affect that participating in a number of activities has on student achievement. Over-participation could pose a problem for some students and create a point of diminishing return in regards to academic achievement.

### **Limitations of the Study**

The two limiting areas for this study include schools within similar geographic regions, and the limiting of extracurricular participation to only four categories.

**Similar Geographic Regions.** This limitation of the study is that the three participating high schools were located within similar geographic regions in a single state. This limitation resulted in homogenous populations and limited data points within the Hispanic and Other categories. If the sample size were diversified to include larger high schools in diverse geographic regions, more variance within the subgroups would have occurred which would have possibly yielded more statistical significance for the category of Other.

**Limits of Extracurricular Participation.** In order to define extracurricular participation in this study, activities were limited to four categories. Perhaps expanding the categories to include other areas of extracurricular activities such as student government and honor societies would have yielded a more diverse data set.

### **Recommendations for Future Research**

As indicated, the results of this study were based upon a limited sample size with limitations placed on geographic location and types of extracurricular participation. With a larger sample size, a researcher could do a full multi-variant analysis, looking for inter-

relationships among subgroups and categories. For example, are there differentiated relationships between gender and ethnic differences and GPA? Another study could be done using a different proxy for student achievement, such as test scores on state accountability measures or the results of the ACT now to be administered to all students in North Carolina in the junior year. Studies could be done across grade levels to determine if any differences exist when one is a freshman, sophomore, junior, or senior. Also a study could be done to determine the differences in post-secondary success between participants and nonparticipants. Future research can be done on interactions among and between aggregated and disaggregated variables. Further studies may use the same data set to apply different statistical tools to explore the effect size and the decisions regarding extracurricular participation based upon gender and ethnicity. Other avenues for future research include the relationships between attitude's, behaviors and post-secondary success with student academic achievement.

## **Conclusion**

The results of this study revealed there were statistically significant relationships between academic achievement and participation in extracurricular activities for both weighted and unweighted GPA with the exception of one subgroup. Other students who participated in extracurricular activities were shown not to have a statistically significant relationship with participation in such activities with weighted and unweighted GPA's. As supported by my study I maintain a continuing conviction as to the value of extracurricular participation. With twenty-eight years of service in secondary education I have witnessed first-hand many benefits to participation in extracurricular activities.

This study established a relationship between extracurricular participation with student achievement, yet there are other possible benefits from extracurricular participation that can yield substantial gains for both students and school. Through participation in extracurricular activities, connections with mentors, both within the school and community, are established. Personal traits such as work ethic and time management skills are strengthened through participation in extracurricular activities. Students who participate are required to learn how to balance academics with time devoted to extracurricular participation. Interpersonal skills are developed through collaboration and teamwork with other students and adults in extracurricular organizations. Such skills are important for students with various post-secondary plans such as attending college, entering the workforce, or joining the military. The students in this study might well represent all of the 2012 high school graduates in North Carolina. They are our next generation of leaders, economic developers, health scientists, professional entertainers, entrepreneurs, and all of those other occupations that will continue to guide our society and world through this 21<sup>st</sup> Century. They are already equipped with many of the academic, social, and interpersonal skills they will need to be successful in these future ventures.

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## Appendix A

**To:** Sandy George

CAMPUS MAIL

**From:** Robin Tyndall, Institutional Review Board

**Date:** 7/09/2012

**RE:** Notice of IRB Exemption

**Study #:** 13-0001

**Study Title:** Relationships Between Extracurricular Participation in Selected North Carolina High Schools and Student Achievement as Determined by Cumulative Grade Point Average

**Exemption Category:** (4) Collection or Study of Existing Data, If Public or Unable to Identify Subjects

This submission has been reviewed by the IRB Office and was determined to be exempt from further review according to the regulatory category cited above under 45 CFR 46.101(b). Should you change any aspect of the proposal, you must contact the IRB before implementing the changes to make sure the exempt status continues to apply. Otherwise, you do not need to request an annual renewal of IRB approval. Please notify the IRB Office when you have completed the study.

Best wishes with your research!

CC:

Kenneth Jenkins, College Of Education

Appendix B

SANDY B. GEORGE  
PRINCIPAL

OLIVIA BYERLY  
ASSISTANT PRINCIPAL

DONALD PRICE  
ATHLETIC DIRECTOR



*Mount Airy High School*

1011 N. SOUTH STREET  
MOUNT AIRY, NORTH CAROLINA 27030

OFFICE (336) 789-5147  
GUIDANCE (336) 789-7622  
ATHLETIC (336) 788-8565  
GUIDANCE FAX (336) 719-2341  
OFFICE FAX (336) 789-9008

June 1, 2012

Dear \_\_\_\_\_,

Thank you for agreeing to help with my dissertation. My study will examine high school seniors' participation in extracurricular activities and the effect that this participation has on their grade point average. You will be using non-identifiable archived data.

The data will include information regarding students' participation in athletics, service clubs, performance clubs and interest clubs. Along with information from NCWISE such as ethnicity, gender, grade point average and weighted grade point average.

This letter is a confirmation of your school's commitment to this process. If you have any questions please feel free to contact me. Please sign below indicating that you are willing to participate in the study and fax the signed copy back to me. Thank you so much for your time and valuable contributions to my research.

Sincerely,

Sandy B. George

\_\_\_\_\_

I, \_\_\_\_\_, principal of \_\_\_\_\_ am willing to assist Sandy George in the data collection process of her doctoral study by providing data from my school as necessary.

Principal Signature: \_\_\_\_\_

Date: \_\_\_\_\_



## Appendix D

### Directions for Data Collection Spreadsheet

<b>Column</b>	<b>Directions</b>
Participant	0- Student does not participate in extracurricular activities. 1- Student participates in extracurricular activities.
Type	1- Athletics 2- Service Club 3- Arts 4- Interest Club
Gender	1- Male 2- Female
Ethnicity	1- White 2- Black 3- Hispanic 4- Other
Unweighted GPA	Cumulative Unweighted GPA
Weighted GPA	Cumulative Weighted GPA



## About The Author

Sandy Booth George is the daughter of Andy and Mary Alice Booth. She was born in Monroe, North Carolina, where her parents still reside. She graduated from Monroe High School and received her Bachelor of Arts degree in Health, Physical Education, and Recreation from Pfeiffer College in 1984. In May 1985, Sandy completed a Master of Arts degree in Physical Education from Garner-Webb College. In August 1988, she completed her Master of Arts degree in School Administration from Gardner-Webb College. Sandy enrolled in the Educational Leadership doctoral program at Appalachian State University in the summer of 2005. She completed her Doctor of Education in Educational Leadership in December 2012.

Sandy began her educational career as a substitute teacher in 1981. She soon gained the position of teacher's assistant before securing a teaching job for Health and Physical Education. She coached track and volleyball, winning the State 1A/2A Volleyball Championship in 1990. In 1996, she was offered an assistant principal position at Mount Airy High School. She was named principal of Mount Airy High School in July 2002. During her tenure as principal of Mount Airy High School she was named the 2011 North Carolina Region 7 Principal of the Year.

Sandy and her husband Tony, have two children Emily and Drew, a son-in-law Levi, and three grandchildren: Brison, Braylen, and Maizey.