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DOES A COEDUCATIONAL ENVIRONMENT AFFECT
PERFORMANCE FOR FEMALE STUDENTS IN
PHYSICAL EDUCATION CLASSES?

A Project
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
Education:
Kinesiology

by
Adriana Aja Sandoval

June 2008

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A Project
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June 2008

Approved by:


Hosung So, First Reader


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6/3/2008
Date

ABSTRACT

The purpose of this study was to investigate the question, "Does a coed environment affect performance for female students in physical education classes?" The physical activity of adolescent females decreases as they age. The decrease of physical activity can lead to many health problems such as heart disease, high cholesterol, high blood pressure and obesity. Having coed physical education classes may affect the performance of female students. To examine this question a review of literature was conducted. From the review of literature, results indicate that factors such as the influence of the opposite sex in class, perceptions and attitudes of female students, activities presented in class and teacher behaviors can affect adolescent performance. With this information, teachers and administrators can use single-gender settings as a teaching strategy to help increase the performance and participation of their female students in physical activity.

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CHAPTER ONE

INTRODUCTION

Statement of the Problem

Studies have revealed that physical education classes have the potential to influence physical performance inside and outside of school for female students. According to Ratliffe and Hannon (2007), a coed environment can create unpleasant experiences, lack of enjoyment, less opportunities, poor self-image and lack of competence among female students. They also found that single-gender physical education settings result in a higher amount of participation opportunities for female students. This is important because previous research has shown the rise of decreased physical performance among females, as they age (Webber, et al., 2006). Decreased physical activity can lead to many acute and chronic health problems or diseases. Health problems that are directly related to inactivity are heart disease, high cholesterol, high blood pressure and obesity (Harris & Hoffman, 2000). A coed physical education environment may be a factor to this growing concern.

Therefore, it is worth looking at single-gender activities and settings to examine the decrease in physical

performance among females in physical education classes. This information can be given to physical education teachers and administrators, which could be used to help increase the performance, opportunities, and participation of their female students. Increased physical activity can lead to a longer and healthier life, help build stronger bones and muscles and help control unwanted weight gain.

Purpose of the Project

The purpose of this project was to investigate how a coed environment affects a female student's performance in physical education classes. The focus of this study is middle school students. Most middle school students are normally going through puberty and through many environmental changes at a new school, with many new teachers. All of these changes can influence a student's performance in certain classes, which can often times be P.E. The influence can decrease performance and participation in P.E., which can lead to physical inactivity. Inactivity can lead to many health problems that have devastating effects for individuals. This study will review published literature that examines female performance in a coed environment versus a single-gender

environment. Physical education, math and science school environments will be researched.

Research Question

The question being researched is, "Does a coed environment affect performance for female students in physical education classes?" It was expected that female students in physical education classes would display an increase in physical performance in a single-gender environment versus a coed environment. In addition, single-gender classes will show more pleasant experiences, enjoyment, opportunities, increased competence and positive self-image for female students.

Scope of the Project

This project was intended for all physical education teachers, physical education specialist and administrators. The results of this project can be used as a teaching strategy for teachers and administrators. They can use the information to help increase physical activity levels of their female students in physical education classes. Information was gathered from one website, one book, one magazine and 12 scholarly journal articles from journals

such as *The Physical Educator*, *Education Digest*, *Education*, *Journal of Teaching Physical Education*, *Educational Psychology*, *Medicine and Science in Sports and Exercise* and *Adolescence*. The journals that focused on female college students were excluded from the study. These journals were excluded because the focus was middle school.

Significance of the Project

According to the functionalist theory, physical activity is important to the balance of society. Coakley (2007) states the functionalist theory "is an organized system of interrelated parts held together by shared values and established social arrangements that maintain the system in a state of balance" (p.33). The functionalist theory helps researchers solve problems and answer questions in regards to how sport and physical activity contribute to the stability and organization of social systems. Overall, the functionalist theory helps explain why sports are good in society. According to the functionalist theory, sport and sport involvement have a positive outcome for people (Coakley, 2007).

Physically active adolescent females lead to physically active female adults, this balances society by

allowing them the ability to conceive children, become productive people and decrease health cost. Having healthy productive females will benefit everyone in society. This is why adolescent females need to continue to increase or maintain their physical activity as they age.

However, physical activity and participation declines as female adolescents' age. According to the Center for Disease Control and Prevention (1999), physical activity levels of adolescent females decreases from around 30 percent at age 12 to 20 percent at age 21. Research has shown that coed physical education classes may be the cause of the decrease participation among female students in P.E. (Ratliffe & Hannon, 2007). This is why the investigation of the effects of a coed and single-gender setting for female students in physical education classes needs to be examined. The findings of this project will give physical educators and administrator's information that will help them increase the physical activity levels of their female population.

Limitations of the Project

First, the limitation of this project was the selection of studies, which focused primarily on middle

school to high school coed and single-gendered classes or groupings. Second, this project excluded studies of female college students and limited elementary students. Last, the scope of research included only 7 different journals, one magazine and one book, which mostly examined the cons of having coed physical education classes for female students.

Definition of Terms

- A. Coed is defined as males and females in the same physical education class or group.
- B. Single-gender or Same-sex is defined as having only male students in the same class or activity or having only female students in the same class or activity.
- C. Performance is defined as the amount of participation or effort a student gives in physical education class or activities.
- D. Perspective is defined as the thoughts or feelings given by students or teachers in physical education classes or settings.
- E. Teacher behavior is defined as communication toward students or interactions with students.

F. P.E. is defined as physical education in a school setting.

CHAPTER TWO

REVIEW OF LITERATURE

Recent research has shown that physical activity levels for female adolescents decline as they age (Webber, et al., 2006). According to Harris & Hoffman (2000), inactivity can lead to devastating health problems such as, heart disease, high cholesterol, high blood pressure and obesity. A coed physical education environment may be a factor to this decline in female activity. According to Ratliffe and Hannon (2007), a coed environment can create unpleasant experiences, lack of enjoyment, less opportunities, poor self-image and lack of competence among female students. They also found that single-gender physical education environments result in an increase of participation among female students.

Derry and Phillips (2004) state coed physical education classes began to take place in public schools because of the interpretation of Title IX, Education Amendments of 1972. According to the U.S. Department of Labor (2008), Title IX states, "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be

subjected to discrimination under any education program or activity receiving Federal financial assistance." After this interpretation, public schools then implemented mixed gender physical education classes to provide male and female students the same opportunities and experiences (Osborne, Bauer, & Sutliff, 2002).

Since the implementation of Title IX the argument continues to rise whether or not coed physical education classes promote learning as effectively as single-gender classes (Osborne, Bauer, & Sutliff, 2002). It has been acknowledged that physical education classes have the potential to influence a student's performance or activity levels in and outside of school, especially among females (Ratliffe & Hannon, 2007).

According to Coakley (2007), the functionalist theory supports the ideas and actions of developing sport activities for girls and women to increase achievement motivation. The functionalist theory states sport and sport activity can offer positive consequences. The theory believes some of the most important social arrangements are social institutions such as education, leisure and sport. The education that female students learn in physical education can help increase their participation inside and

outside of class. Healthy females will help lead to a smooth operation of society because they will be able to work a job, play sports, live a longer life and give birth to children.

Influence of the Opposite Gender

Hannon and Ratliffe (2007) investigated the idea that single-gender physical education environments may result in more participation opportunities and interactions with teachers for female students. To conduct their research Hannon and Ratliffe compared high school aged females' and males' opportunities to participate and interact with teachers during soccer, ultimate Frisbee and flag football in a single-gender and coed environment.

Participation was evaluated by recording the number of touches a student had with the game object. The number and type of teacher and student verbal interactions were also recorded. The results of this study recommend that female students may have more opportunities to participate in flag football, ultimate Frisbee and soccer game time in single-gender environment than in a coed. Teacher and female student interactions were also increased in a single-gendered setting. The authors concluded that when playing

team sports, separating males and females may be more beneficial to females (Ratliffe & Hannon, 2007).

Webber et al. (2006) found adolescent girls are less physically active than boys and their physical activity decreases as they get older. In a study conducted by Webber and colleagues, female students were assessed on physical activity levels in regards to class gender, lesson location (inside or outside), lesson context and teacher gender. The purpose of this study was to examine girls' physical activity levels in middle school and possible reasons for the decline of their activity levels.

Results showed that girls spent a substantial proportion of the class being sedentary. Girls showed increased participation during lessons that were fitness orientated and outdoors. Class gender did not show a difference in participation when the lesson length was controlled. Overall, teacher's verbal promotion of physical activity and fitness were low and did not change because of class gender, lesson location or teacher gender.

In conclusion, researchers suggest teachers modify curricular content, allow more time to activities promoting fitness, improve class management and increase teacher

promotion of physical activity to help increase female participation (Webber, et al., 2006).

The influence of gender is not only noticeable in physical education classes, but also in math classes. Campbell and Cay (1997) examined mathematics anxiety levels among high school female students. The goal of the research was to discover reasons why female students were underachieving in math. Female students were put into either a coed or single-gender math class. The coed and single-gendered classes were taught by the same instructor at different times of the day. At the end of the school year students completed a questionnaire.

The results from the study showed that female students in a single-sex class had a significantly lower math anxiety than the females in a coed class. The self-concept of females in the single-sex class increased and it decreased for females in the coed class. The researchers concluded that female students perform better in a single-gender environment and these environments must be explored as an alternative to reinforce positive self-concepts (Campbell & Cay, 1997).

Activities Presented in Class

A similar study was done by Cleven and Grant (2005). The purpose of the study was to determine which physical activities students felt should be offered in coed and single-gender settings, which physical activities were preferred by female and male students, and whether or not physical education was one of their favorite classes.

Students were asked to complete a survey that contained biographical information, activities they preferred, activities students felt should be coed or single-gender and if physical education class was one of their favorite subjects (Cleven & Grant, 2005).

The research concluded that girls were more likely to pick individual and non-contact sports and boys were more likely to pick contact sports. According to Cleven and Grant (2005), contact sports are less attractive because of the body contact and aggressiveness rather than the socialization. A higher percentage of boys said physical education was their favorite class and they preferred coed classes. This may be because physical education classes are less appealing to females due to factors such as teacher bias, gender role stereotyping, sexism and harassment (Cleven & Grant, 2005).

According to Prusak, Treasure, Darst and Pangrazi (2004), adolescent girls may be more motivated in physical education classes if given choices. The higher the motivation the more physically active students will become. This study analyzed the motivational responses of middle school girls in having choices in walking activities in P.E. classes.

Middle school female students in single-sex physical education classes responded to a questionnaire. Before they responded to the questionnaire they were put into a class that gave students choices and in a class that gave no choices.

The research from this study showed students in the choice group were more intrinsically motivated than the students that were given no choice. In this article the salient information suggested girls need to be given choices. Girls should be given choices in activities presented in class or be allowed to choose from a variety of activities offered, which may increase their physical activity levels.

Student Perceptions and Attitudes

Couturier, Coughlin and Chepko (2007) performed a similar study on student perceptions on coed physical education classes. The purpose of the study was to work in collaboration with physical educators to determine factors for the decline of physical activity among middle school and high school students. A major concern was the drop in performance among female students. The perceptions of how students felt about physical education and its influence on participation in class were investigated.

Females and males in middle school and high school were given surveys to complete. The survey was concerned with reasons why students did and did not choose to participate in physical education.

The results indicate girls like activities that they can complete at their own pace, less competitive, more cooperative and geared towards fitness. Male students enjoy competitive sports and physical challenges. Female students identified environmental issues as a reason not to participate in physical education classes. Environmental issues such as showering, changing, bringing clothes to school and going to their next class sweaty. Boys did not feel a discomfort with these issues.

Osborne, Bauer and Sutliff (2002) suggested looking at middle school students' perceptions of coed versus single-sex physical education settings. This may help discover ways to make physical education more enjoyable for students.

The results the researchers found from this study indicate students enjoyed coed classes because they were able to interact with the opposite sex. Students did not like coed environments because the boys felt the girls did not give enough effort and girls felt the boys did not cooperate. Both girls and boys enjoyed non-coed environments because they felt more comfortable around just their gender and did not have to worry about what the other gender thought about what they were doing or saying. Girls and boys agreed contact sports were better suited for boys and low intensity and more flexibility sports were more suited for girls. The authors concluded that middle school students do have class preferences of a coed or single-gender setting. The preference appears to be based on the activity or sport. However, students do favor being in a single-gender setting (Osborne, Bauer & Sutliff, 2002).

Treanor, Graber, Housner and Wiegand (1998) conducted a study on middle school students' perceptions of

coeducational and same-sex physical education classes. The purpose of the study was to examine the insight of middle school students on coed and single-gender physical education classes. An understanding of the students' perceptions can help teachers develop a learning environment that meets the needs of all students.

For this study, students participated in a yearlong project where they were put into a coed environment for half the year and in single-gender environment the other half of the year. Students were given a questionnaire at the end of the study that asked questions about their perceptions of the two types of class settings.

The results show that regardless of perceived level of skill, fitness or effort, single-sex physical education was preferred. Females and male students perceived that in single-gender settings they learned more, were more competitive, performed skills better, played team sports better, behaved better and were less fearful of injuries.

Hulya, Demirhan and Koca (2005) suggested educators should look at the attitudes students have toward coed physical education classes and how it influences participation levels. Hulya, Demirhan and Koca (2005) performed a study on high school female and male students.

These students were asked to complete a questionnaire that asked questions about how they felt about coed and single-gender physical education classes.

The results of the study show that gender does affect attitudes toward physical education. Females in single-gender classes preferred single-gender classes and females in coed classes preferred coed classes. The majority of boys preferred coed physical education regardless of their current gender environment.

Archer (1998) stated coed private schools find benefits in math and science single-sex classes. Different private schools and students were interviewed about their single-sex classes in math and science.

The results indicate that female students feel more comfortable and inclined to participate in single-gendered classes. The administrators of each school also confirm the positive effect single-sex classes have on female students. In short, female students and educators believe single-sex classes improve female performance in math and science (Archer, 1998).

Teacher Behaviors

In another study, researchers explain how teacher behaviors and puberty may play a role in coed environments, which is stated by Derry and Phillips (2004):

Adolescence is one of the most difficult periods in a young girl's life. Not only is a young girl expected to handle the developmental and physiological changes that occur within her body, but she must confront sociological issues that often occur within school environments. (p.23)

Educators must provide educational movement settings most beneficial for all students to learn and become physically active. The purpose of this study was to examine selected student and teacher behaviors between settings found within coed and single-sex physical education classes for seventh, eighth and ninth grade girls.

The researchers' results indicate teachers spent less time on teacher management, gave more performance feedback, more motivation feedback and more teacher-initiated interaction in a single-gender setting. For all variables observed, female students increased their engaged skill learning time, physical activity enjoyment, global self-worth, perceived athletic competence and student-initiated

interactions. The authors wrap up their research by stating, female students appear to be on-task more during physical education class in a single-gender environment than in a coed environment. Female teachers have a more effective learning environment in a single-sex physical education class than a coed. The researchers suggest that schools, administrators and teachers offer girls and boys opportunities to participate in single-sex activities or classes to better meet their needs (Derry & Phillips, 2004).

According to Nicaise, Coggerino, Bois and Amorose (2006), the feedback given by teachers can help motivate students to perform and learn in class. The purpose of the study was to investigate high school female and male students' perceptions about their teachers' feedback and its relationship to the students' perception of ability in physical education.

High school students were given a questionnaire about their perceptions of their teacher's feedback, their perceptions of competence, background information and class performance.

The authors' results of their research show no significant differences when it comes to praise feedback

among female and male students. The only difference that was found was that girls reported less criticism and lack of responses from their teachers. Girls were also more influenced by their teacher's feedback than boys. Girls did allow the feedback from teachers to influence their competence. The researchers concluded based on their research, girls had a higher self-perception of competence because of the less criticism after mistakes and the frequent praise feedback.

In conclusion, the participation in physical activities among adolescent girls starts to decline in early adolescents (Ratliffe & Hannon, 2007). Factors such as teacher behaviors, activities offered in class, the influence of the opposite sex and the perceptions of female students all have effects on female student performance in coed physical education classes.

Research indicates physical educators and administrators can increase the performance of female students by offering the option of single-gender classes or groupings, activities and curriculum that meets the needs of females, understanding how teacher behaviors and perceptions can affect their students and by talking or

surveying their students about their attitudes toward coed classes and activities.

CHAPTER THREE

METHODOLOGY

To complete this study, "Does a coed environment affect performance for female students in physical education classes?", three methods of research took place. First, I went to the library and gathered scholarly journals that focused on female physical activity levels and coed physical education classes. I read through the journals and narrowed down my research topic. I decided to research coed and single-gender physical education.

Second, I logged on to California State University of San Bernardino's library online and did a search through the scholarly journals. I used the database Ebscohost to find scholarly journals. I typed in key terms such as coed physical education, single-gender physical education, coed education, single-sex education and single-gender education. I found a total of 13 scholarly journals. I selected articles by clicking on the articles that had the key terms listed. I then read the abstract of each article to determine whether I could use the article for my research. I picked articles that had key terms such as coed education, coed physical education, single-sex education

and single sex physical education. The articles that I could use for my research were then printed out. Once I printed out the article I read it. I then went to the library and checked out journals that had key terms related to my study. I went home and read through the abstract of each article. The articles that had information about single-gender and or coed information were photocopied on my copier. The journals were then returned to the library.

Third, I looked through my own personal library of undergraduate and graduate books for information related to my topic. I narrowed down my search with key terms such as, health, inactivity, healthy lifestyle and diseases. I found one book with all of the key terms listed. I then read through the chapters and highlighted information I wanted to use and implement into my project.

Finally, I went online and browsed the web for information in regards to my research topic. Once again I entered in key words such single-gender P.E., coed P.E, Title IX and healthy lifestyle. I found a website that had information about Title IX. I then downloaded any pertinent information about Title IX I could possibly use for my project.

CHAPTER FOUR

RESULTS

After completing the review of literature, this study focused on several possible contributing factors to the decrease in performance among female students in coed physical education classes. These factors are such as, the influence of the opposite sex, perceptions and attitudes of female students, activities presented and teacher behaviors.

According to Hannon and Ratliffe (2007), female students may have more opportunities to participate in class activities in a single-gender environment than coed. This is especially true in team sport games. This may be due to the male dominance during class activities. Coed classes allow for male dominate possession of the object in play, which reduces the amount of game time or touches of the object in play by female students.

The influence of the opposite gender in class was also found in math classes. Campbell and Cay (1997) discovered that female students in a single-sex class had a significantly lower math anxiety than the females in a coed class. The self-concept of females in the single-sex class

increased and it decreased for females in the coed class. Female students perform better in single-sex settings and these settings must be explored as an alternative to reinforce positive self-concepts.

Hulya, Demirhan and Koca (2005) suggested educators should look at the attitudes and perceptions students have toward coed physical education classes and how it influences participation levels. They found females in single-gender classes preferred single-gendered classes.

Osborne, Bauer and Sutliff (2002) also examined student perception and found students did not like coed environments because the boys felt the girls did not give enough effort and girls felt the boys did not cooperate. Both girls and boys enjoyed non-coed environments because they felt more comfortable around just their gender and did not have to worry about what the opposite gender thought about what they were doing or saying.

Cleven and Hill (2005) stated the decline of physical activity among students may take place because of gender preference of activities presented and played in class. Female students tend to prefer sport activities that are non-contact and individual. Some reasons why female students shy away from contact sports are because of

society standards and cultural norms. Traditionally society sees contact sports as not "feminine". Activities that were preferred by girls were swimming, dance, aerobics, gymnastics, rope jumping and volleyball.

Couturier, Coughlin and Chepko (2007) found similar results on student preferences of activities. Girls like activities that they can do at their own pace, less competitive, more cooperative and geared towards fitness.

Derry and Phillips (2004) suggested teachers are able to provide a more encouraging and effective learning environment for female students in a single-gender environment versus a coed environment. In single-sex classes teachers were able to provide more feedback and interaction to female students. The teachers were able to give more time because they spent less time on classroom management issues in a coed class.

According to Nicaise, Coggerino, Bois and Amorose (2006), the feedback given by teachers can help motivate students to perform and learn in class. Female students are influenced by their teacher's advice and opinions, which affects their performance. The researchers concluded based on their research, girls had a higher self-perception of

competence because of the less criticism after mistakes and the frequent praise feedback.

In conclusion, several factors contribute to the decline in physical activity among adolescent females in coed physical education classes. The influence of the opposite sex, perceptions and attitudes of female students, activities presented in class and teacher behaviors are all factors. The results of this research can lead to instructional strategies that can help teachers and administrators increase physical performance in their P.E. classes. According to the functionalist theory, developing sport opportunities for females can increase achievement motivation among them. According to the theory, healthy females would benefit the society as a whole (Coakley, 2007).

CHAPTER FIVE

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

From the research examined in this project, female adolescent students' physical activity and performance declines as they get older. This can lead to many different types of health problems such as heart disease, obesity, high blood pressure and high cholesterol. Coed physical education classes may be one factor for the decline of physical activity. Thus, single-gender environments have been used as a teaching strategy to help increase physical activity among females.

Conclusions

The purpose of this study was to investigate the effects of a coed environment on female performance in physical education classes. The activity levels of girls starts to decline in early adolescents (Ratliffe & Hannon, 2007). Factors such as, teacher behaviors, activities presented in class, the influence of the opposite sex and the perceptions of female students all have effects on

female student performance in coed physical education classes.

Research indicates administrators and teachers can help the declining performance of female students by offering the option of single-gendered classes or groupings, activities and curriculum that meets the needs of females, understanding how teacher behaviors can affect their students and by talking or surveying their students about their attitudes toward coed classes and activities.

It is believed that one size does not fit all. From reading all of the research about this topic it was found that single-gender classes and or groupings can benefit female and male students, especially students in middle school. Research shows students are going through many changes, puberty being the biggest change for many students (Derry & Allen, 2004). Students are going through an uncomfortable body change and having the opposite sex in a class where physical activities are required can be embarrassing for many. Having single-gendered groupings can offer students a fair and equal education just like it is defined by Title IX. This education amendment states both male and female students in schools receiving Federal financial assistance cannot be denied access to any

education activity or program. Students are not being denied access. They are receiving access through a teaching strategy (Osborne, Bauer & Sutliff, 2002). According to the functionalist theory, developing sport opportunities for females can increase their achievement motivation and healthy females would benefit the society as a whole.

Recommendations

There are many factors that affect student performance in P.E. in terms of single-sex or coed classroom settings. For future research, these issues should be examined, teacher perception, how teacher perception can affect student performance and the perspectives of students. Single-sex activities should be used as a teaching strategy.

The perception of the teacher needs to be examined because he or she is in the environment everyday and can give researchers some valuable information in regards to what they observe. Teacher experiences with students in coed and single-gendered settings should be examined. Some teachers have been teaching P.E. long before Title IX was interpreted and before school districts turned single-sex

classes into coed classes. These teachers know first hand the differences between the two environments.

Not only does the perception of P.E. teachers need to be investigated, but how the teacher's perception can affect the performance of his or her students. Often times how the teacher feels and perceives his or her students can set the stage for how well a student performs in class.

Also, the perspectives of male and female students needs to be further studied. Students in elementary, middle school, high school and college all need to be asked and questioned about their attitudes and feelings toward single-gender and coed P.E. environments. Every age group has had different experiences with this type of environment and all the information collected can help researchers identify some key problems or issues females and males may have.

The information gathered from this project can also help professionals in the field of education and especially in physical education. Teachers and administrators can use single-gender settings as a teaching strategy to increase their student's performance and participation.

Overall, issues such as teacher perception, how teacher perceptions can affect student performance and the

attitudes of students toward coed and single-gender classes need to be examined. For practice in the education field, single-sex activities should be used as a teaching strategy.

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