

5-2015

The Effects of Gender Grouping on Female Students' Participation in Physical Education

Anthony Bender

Jill S. Litfin

Follow this and additional works at: <http://sophia.stkate.edu/maed>

 Part of the [Education Commons](#)

Recommended Citation

Bender, Anthony and Litfin, Jill S., "The Effects of Gender Grouping on Female Students' Participation in Physical Education" (2015). *Masters of Arts in Education Action Research Papers*. Paper 96.

This Action Research Project is brought to you for free and open access by the Education at SOPHIA. It has been accepted for inclusion in Masters of Arts in Education Action Research Papers by an authorized administrator of SOPHIA. For more information, please contact ejasch@stkate.edu.

The Effects of Gender Grouping on Female Students' Participation in Physical Education

An Action Research Report
By Anthony Bender and Jill Litfin

The Effects of Gender Grouping On Female Students' Participation in Physical
Education

Submitted on May 22, 2015

in fulfillment of final requirements for the MAED degree

Anthony Bender and Jill Litfin

Saint Catherine University

St. Paul, Minnesota

Advisor _____

Date _____

Abstract

The purpose of this action research was to determine if female participation would increase in a single-gendered versus a co-educational (co-ed) setting during seventh and eighth grade physical education. The action research project was completed in the Barnum Secondary School with 70 seventh and eighth grade females during competitive contact activities. All 70 females were given a participation questionnaire and 40 random females were observed during four weeks of activity. Data was collected using a participation questionnaire, a participation tally sheet, a video observation checklist, and a participation rubric. The results showed female participation increased in the single-gendered setting in competitive contact activities. Competitive contact activities should be offered in a single-gendered setting to allow females in seventh and eighth grade the opportunity to enhance their participation in a physical education setting. We will continue to monitor both co-ed and single-gendered activities to gauge participation outcomes.

Keywords: increase participation, physical education, females, physical contact activities

during our seven years of co-teaching in our physical education classes we have noticed a decrease in the level of female participation during seventh and eighth grade co-educational (co-ed) activities. We have frequently discussed how our female students do not participate to their full potential often during class activities. Our female students held back during competitive contact activities, such as floor hockey, flag football, and team handball, while competing with the male students. Female students did not actively engage in play, did not call for the ball, nor did they keep up with the tempo of play. However, when playing the same activity with the same expectations in a single-gendered setting, the female students were actively engaged, set the tempo, and called for the ball.

These differences in behavior observed among females in co-ed versus single-gendered play generated our action research project. The purpose of this action research project was to discover whether seventh and eighth grade female participation would increase in a single-gendered setting during competitive contact sports compared to a co-ed setting. It is important for female students to feel comfortable participating equally in both the co-ed and single-gendered setting.

The seventh grade class consisted of 30 male and 36 female students. The eighth grade class consisted of 41 male and 35 female students. Each grade participates in physical education for 45 minutes/5 days a week for an entire school year. All seventh grade students have physical education at the same time, generally in one gymnasium. Likewise, all eighth grade students have physical education at the same time, generally in one gymnasium. As a small, rural public school most students have grown up together attending the same classes.

Review of Literature

Even having grown up together experiencing the same physical education curriculum, male and female students learn differently. Research shows females' involvement increases when they feel a vested interest, when activity focuses on lifetime activities, and where there is single-gender grouping during certain bodily contact activities (Fletcher, 2008; Gabbei, 2004; Gibbons, Temple, & Humbert, 2011; Shimon, 2005).

While co-ed physical education classes provide more opportunities for movement, single-gender groupings are more beneficial for female students, in terms of skill achievement (Gabbei, 2004). Research has shown there are many benefits to female students in a single-gendered setting. Gibbons et al. (2011) discovered female students require more practice with skill drills than male students in competitive contact activities. When females are given more time to master skills they become more confident, thereby increasing participation in play. A single-gendered setting allows them to practice skills at their own pace and build more confidence in the activity. Middle school girls specifically believe that they “performed skills and played sports better, received more practice opportunities, and were less fearful of injury in same-sex physical education” (Couturier, Chepko, & Coughlin, 2007, p. 153).

Females partaking in a single-gendered setting reap the benefits of a higher level of motivation, confidence in skills, and quality corrective instructional feedback. Evidence suggests that many female students have difficulty learning or improving skills in co-ed classes, thus creating an unfair and adverse impact on female students (Hill, Hannon, & Knowles, 2012). However, in a single-gendered setting, female students feel

more comfortable acquiring the skill base they need to be successful in competitive contact sports. Also, according to Hannon & Ratliffe (2007) a greater number of interactions are directed at groups of females in a single-gender setting, possibly providing motivation to increase participation during certain bodily contact activities (p. 17).

Several studies show that one way to effectively increase participation is by using grouping strategies among female students in physical education classes (e.g. Shimon, 2005). One grouping strategy found to be effective was grouping based on choice of activities. When offered a choice of activities, female participation increased. Another grouping strategy found to be effective was rotating groups. In this approach, skill development occurs in a gender-specific setting, and then the genders are reunited for game play. Finally, another way to increase participation is to offer balanced activities. Gabbei (2004) found that teachers should consider balancing instructional units. For example, activities offered should include football, soccer, and softball, as well as archery, bowling, dance, jogging, and weight training.

Through research we found many studies addressing female participation were conducted in other countries such as Canada and the United Kingdom, but that few were conducted in the United States. We were unable to find past research conducted in the United States with statistics regarding participation increases in a single-gendered setting. Our action research was designed to determine the effects of single-gendered grouping on females' participation during competitive contact activities in the seventh and eighth grade. We hoped the results would show that a single-gendered setting would benefit

female students in our curriculum compared to a co-ed setting by increasing their participation.

Methodology

Four data collection procedures were used to measure female participation during seventh and eighth grade physical education classes. The four procedures were: (1) participation questionnaires, (2) tally sheets, (3) videos, and (4) participation grades. All data collection was accomplished during designated physical education classes. The seventh grade class attended physical education every day for 33 minutes. The eighth grade class attended physical education every day for 33 minutes as well. We collected data (tally sheets, video, and participation grade) during a floor hockey unit where the females participated three days in a co-ed setting and three days in a single gender setting. We then collected the same data in a team handball unit using the same format of three days co-ed and three days single gender. Before our data collection began, we had one eighth grade male and one seventh grade female opt out of our study.

The first data source we collected was a participation feedback questionnaire (Appendix A) sent to all females in seventh and eighth grade (except one seventh grade female). We used the school Google mail accounts for our students. Each student was assigned a Google mail account at the beginning of the school year and they have access to them for the duration of their schooling. We created the questionnaire using Google Forms which is a free program provided within our Google mail accounts. The questionnaire consisted of eight questions. There were two Likert scale questions asking the students to rate their participation from “do not participate” (1) to “fully participate” (5) in both a co-ed setting and a single-gendered setting. There were two questions

asking the students to identify how active they felt they were in each setting and which setting they preferred to play in. The other four questions were open-ended for the females to share what they liked and disliked about co-ed and single-gendered settings. After creating the questionnaire we asked the participating 70 females to complete it. There were 35 seventh grade females and 35 eighth grade females. We reserved the media center on January 9th, and one teacher brought the females to the media center during class. When all females were logged in to a computer, they were then asked to open their school email accounts and take the questionnaire. A few complications that arose were students not remembering their passwords to their Google mail accounts and students not able to log into the school's system. Those students that were unable to complete the questionnaire on January 9th, 2015, were asked to obtain the information they needed from the District Tech Coordinator and were asked to complete the questionnaire during homeroom time. Responses to the questionnaire were automatically collected and made available to the researchers through Google forms.

The second data collection that took place was a tally sheet (Appendix B) recording touches by 10 random seventh grade and 10 random eighth grade females in a co-ed setting and a single gendered setting. We defined a "touch" as having a controlled contact with the puck or handball. We designated a number, 1-35, for each female in the seventh grade and each female in the eighth grade. In order to ensure no discrepancies in our data, we put all 35 numbers for seventh grade in a box and blindly drew out 10 numbers correlating to a female in the class. We then duplicated the process with all 35 numbers for the eighth grade. This ensured a completely random selection. On January 12th-14th, seventh and eighth grade girls competed in a co-ed floor hockey unit. On

January 15th, 16th, and 21st, they competed in a single-gendered floor hockey unit. All students participated in the floor hockey unit. Students were divided into four teams with two teams playing against each other on one half of the gym. Students then played in shifts of three minutes. The female students randomly selected were observed and touches were recorded on the tally sheets. Tally sheets were recorded all three days for two to three consecutive shifts during their allotted class time. The students were then separated into single gendered play for three days. Two teams of girls and two teams of boys were created. Each gender played on one half of the gym. The teams played in shifts of three minutes and touches were tallied for each randomly selected female during three consecutive shifts. We followed a similar format for the team handball unit. On January 26th – 28th, one seventh grade section played co-ed team handball and the previously mentioned format for recording touches was followed. On January 29th-February 2nd, they played single-gendered team handball, and the same tallying format was followed. On February 3rd-5th, the second seventh grade section played co-ed team handball and the same tallying format was followed. Then, on February 6th, 9th, and 10th they played single-gendered team handball and the same tallying format was followed.

Our videotaping data was collected during co-ed floor hockey, single gendered floor hockey, co-ed team handball, and single gendered team handball units. We used our school assigned I-Pads to record three minute shifts of play on January 14th, 21st, 28th, February 2nd, 5th, and 10th which were the third days of each unit. The reasoning behind videotaping on the third day was it allowed time for skill development, adjusting to the pace of play, as well as becoming comfortable with the game. We videotaped three different three minute shifts within the 40 minute class period, making sure we were able

to capture all ten female students during participation. We ended with a total of 18 different videos to use as data. We then reviewed the video tapes using an observation checklist (Appendix C) to determine the following characteristics: (1) girls are moving with speed of play, (2) girls are communicating with team during play, (3) girls are playing both defense and offense, (4) girls display continuous movement throughout the game, and (5) girls show signs of enjoyment.

Our final data collection piece was assigning a participation grade for all 20 randomly selected females using a participation rubric (Appendix D). We used the recorded videos during play to complete the grading rubric, which we used to determine the females' level of attitude, effort, and movement. We used a scale of 5-2 on the rubric, 5 being the optimal level, 2 being the lowest. We chose to eliminate a participation of 1 on the scale due to the fact that it essentially equaled a student not participating at all.

Attitude was graded on the following levels: Five - leads others to improve, constantly demonstrates an extremely positive attitude, never fools around, constantly encourages and is kind to classmates, and constantly demonstrates good sportsmanship. Four - demonstrates a positive attitude, rarely fools around, often encourages and is kind to classmates, and almost always demonstrates good sportsmanship. Three - demonstrates a positive attitude, sometimes fools around, sometimes encourages and is kind to classmates, and sometimes demonstrates good sportsmanship. Two - disturbs the harmony of the group, interrupting others' focus and efforts, typically fools around and is generally uninvolved, and demonstrates poor sportsmanship.

Effort was graded based on the following levels: Five - consistent in giving best efforts, strives to improve on learned skills, helps others to develop their own skills, listens attentively; shows active listening, and asks questions for clarification. Four - gives their very best effort even if they don't enjoy the activity, attempts to learn the necessary skills, generally listens well, and occasionally asks questions for clarification. Three - usually tries, even if they don't like the activity, responds when prompted, tries to learn some new skills, and attempts to listen. Two - participates only if they enjoy the activity, rarely attempts to learn new skills, and does not demonstrate listening behaviors.

Movement was graded based on the following levels: Five - covers all areas of the floor/field, in order to successfully help teams succeed. Four - attempts to cover half the floor/field in order to successfully help their team to succeed. Three - covers only area needed to play position on offense or defense but not both and does not show an interest in helping the team become successful. Two - covers only a small area on the floor/field where they started the game and shows no interest in helping the team become successful.

Analysis of Data

The focus of our research was to determine if female participation increased in a single-gendered setting versus a co-ed setting during competitive contact activities. We gathered data from a questionnaire, recorded touches on a tally sheet, videotaped female participation, and graded each female on a participation rubric.

We analyzed the data from the participation feedback questionnaire to help understand the mindset of our female participants before we continued in co-ed and single gendered contact activities. We sent out 70 questionnaires and received 56

responses which equals an 80% response rate. The areas we analyzed for our data from the participation questionnaire were: how females would rate their play in a co-ed setting and a single-gendered setting, what females dislike and like about co-ed play and what females dislike and like about single-gendered play.

Questions two and three on the participation feedback questionnaire dealt with having the females assess themselves based on their participation in co-ed and single-gendered play. They were given a rating scale from 1 (I do not participate) to 5 (I participate fully). The breakdown of results is as follows for co-ed play: 1 female (2%) did not participate, 7 females (12%) reported below average participation, 21 females (38%) reported average participation, 19 females (34%) reported above average participation, and 8 females (14%) reported they fully participate (Figure 1). The breakdown of results was as follows for single-gendered play: 0 females reported they do not participate, 2 females (4%) reported below average participation, 7 females (12%) reported average participation, 13 females (23%) reported above average participation, and 35 females (61%) reported they fully participate (Figure 1). The significant gap between 61% of the females reporting they fully participate in a single-gendered setting versus only 14% of the females reporting they fully participate in a co-ed setting demonstrates a majority of females participate more in a single-gendered setting for competitive contact sports.

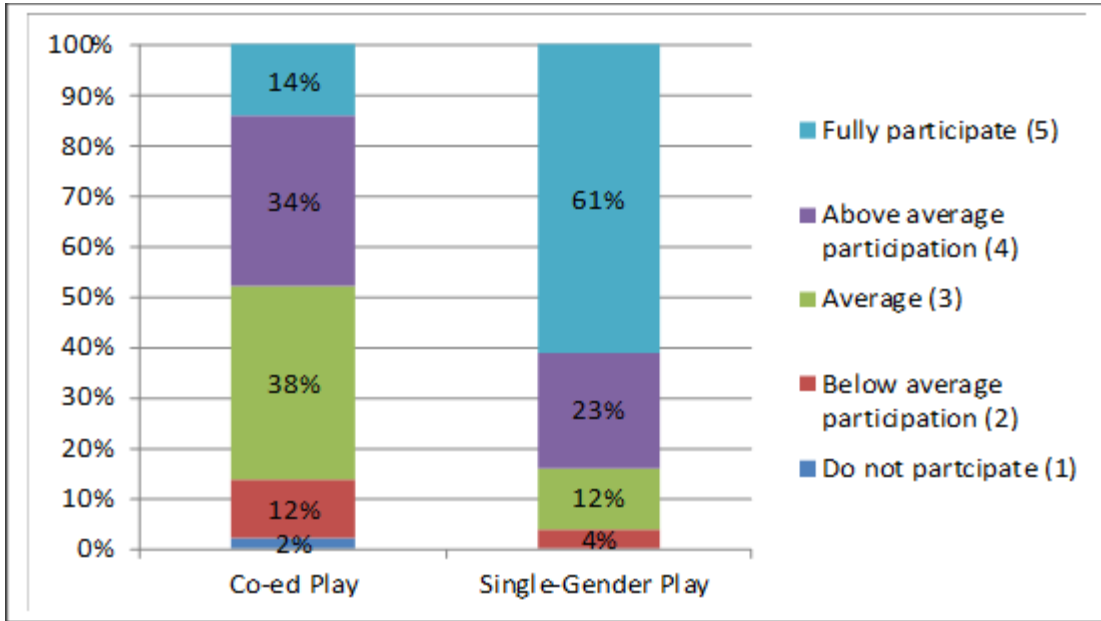


Figure 1. Self-assessment of participation. This figure illustrates the females' self-assessment of their participation rates during co-ed and single-gendered play.

The next part of data we analyzed was to determine how the arithmetic mean for the seventh grade females and the eighth grade females differed when rating their participation. The seventh grade females scored an average of 3.68 out of 5 in co-ed play. They reported having average to above average participation in a co-ed setting. The seventh grade females scored an average of 4.34 out of 5 in single-gendered play. So, seventh grade females scored almost one point higher when it came to single-gendered play. The eighth grade females scored an average of 3.34 out of 5 in co-ed play. They reported having average participation in a co-ed setting. They scored an average of 4.84 out of 5 in single-gendered play. That is more than a one point difference. This indicates that while both grades prefer single-gendered play, there is a bigger gap in the eighth grade. Figure 2 demonstrates the correlation between the seventh and eighth grade self participation averages.

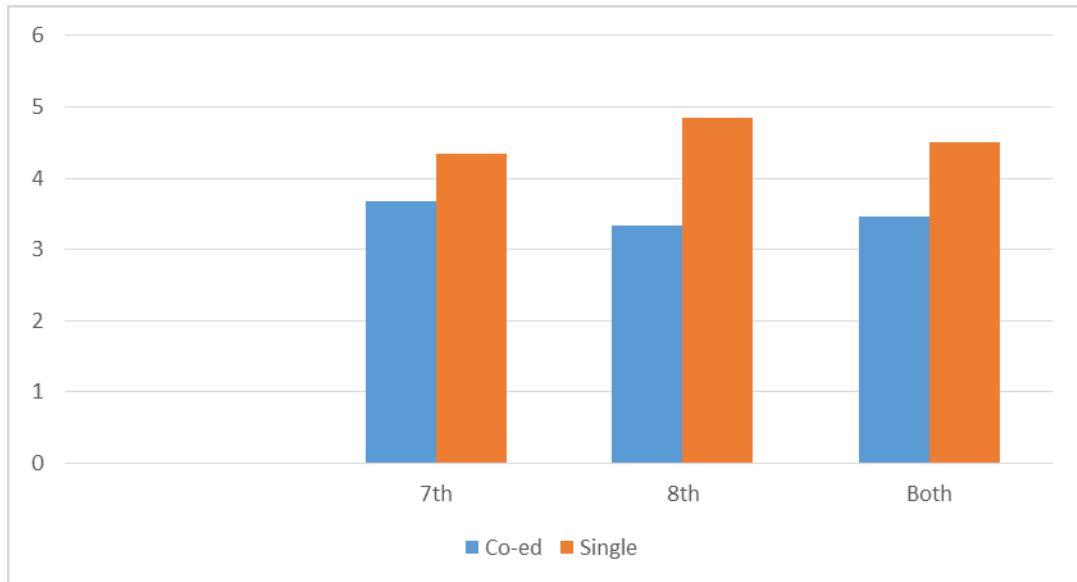


Figure 2. Rate of Participation. This graph illustrates the average participation grade between a co-ed setting and a single-gendered setting.

After analyzing their rate of participation we looked at the reasoning behind their choices concerning co-ed and single-gendered participation in competitive contact activities. We asked them what they liked and disliked about co-ed play. We received similar responses about why they like co-ed play and why they dislike it.

The top five reasons why females disliked co-ed play are shown in Figure 3. The main reason given for why females disliked co-ed play was because the males excluded them from play. They felt the males hogged the ball, never passed to them, and did not allow them turns. One student stated, “I don’t like it when the boys don’t pass it to the girls or when they keep what we are playing with to themselves.”

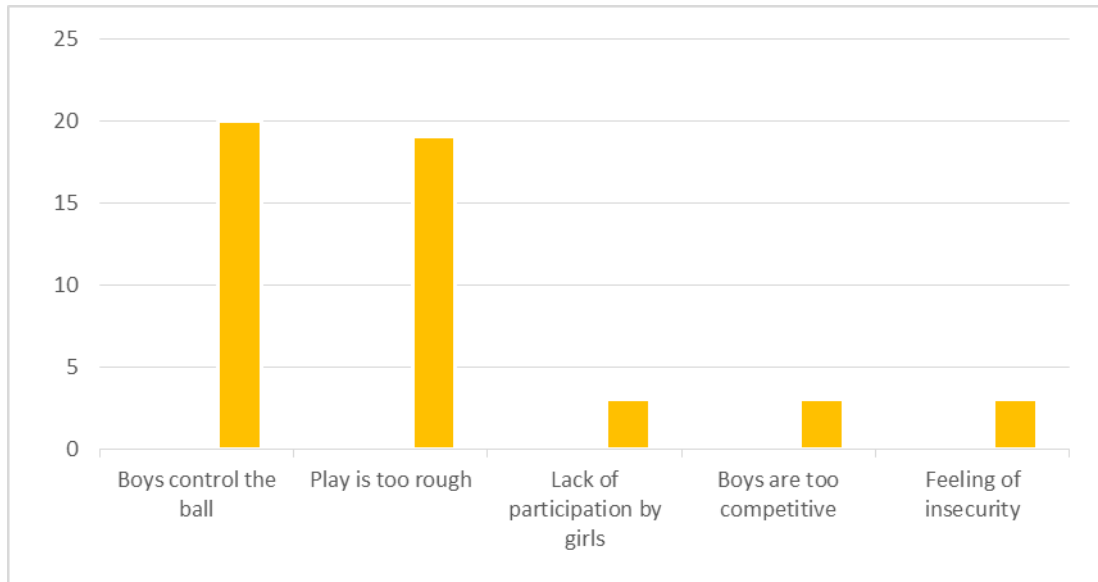


Figure 3. What Females Dislike About Co-ed Play. This graph illustrates the top five reasons females dislike co-ed play.

Another reason given for poor participation from the females was due to the males playing too hard. They felt the males in the class threw the ball too hard, pushed during play, argued with other players, played aggressively, and played too rough. One seventh grade female responded, “I am sometimes scared playing with the boys because I got hurt last year. One boy bumped into me and I sprained my leg.” Other reasons given were the lack of participation by other females, that the boys were too competitive, and feeling insecure. We also asked them what they liked about co-ed play (Figure 4). Eleven females stated they like the higher level of competition. One female stated, “It helps me compete at a higher level unlike single-gendered because many girls in my grade are not as athletic as I am.” Ten females stated they didn’t like anything about co-ed play. On the other hand, ten stated they like how everyone worked together. “I like that we can all work together and kind of get to know each other a little better,” responded one girl. Six responded that they liked the variety of people to pass the ball to and six said they liked the challenge of playing together.

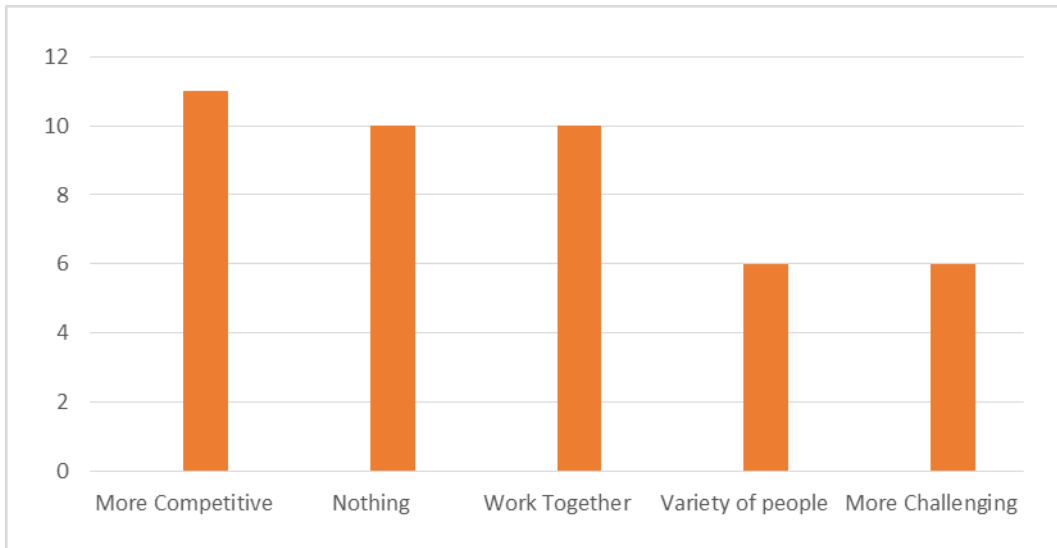


Figure 4. What Females Like About Co-ed Play. This graph illustrates the top five reasons females like playing co-ed.

We also analyzed what the females liked and disliked about single-gendered play. The females reported feeling more comfortable playing against other females and that single-gendered play is at their level. They reported feeling that play is easier, more fun, open and equal. One eighth grade student said, “You get more playing time and it is more like ‘our level.’ You also don’t have to deal with how serious the boys take the game.” What the females reported disliking about single-gendered play is the lack of participation from other females. “Sometimes not everyone participates or wants to play. Some girls just are not interested in it. So it’s not that fun when the girls don’t want to play.” We see lack of participation in all areas but it is increased in co-ed competitive contact activities.

Following the questionnaire, the next data collection item was observing the females as they played and making notations on our participation tally sheet (Appendix B). We first observed and recorded the number of touches the females incurred during three days of a co-ed floor hockey unit. We followed this procedure up with three days of a single-gendered floor hockey unit. After examining the recorded data from 20

seventh and 20 eighth grade randomly selected females, we found conclusive evidence that there was an increase in the number of touches from co-ed to single-gendered play for both grades. The average number of touches for the seventh grade females during three minutes of play in co-ed floor hockey was 13.1 touches. Their participation increased to an average of 22.7 touches in the single-gendered floor hockey unit. This led to an average increase of 9.6 touches. The average number of touches for the eighth grade females during three minutes of co-ed floor hockey play was 12.9 touches. Their participation increased to an average of 16.8 touches in the single-gendered floor hockey unit. While not achieving as big an increase as the seventh grade, they did increase by 3.9 touches (Figure 5).

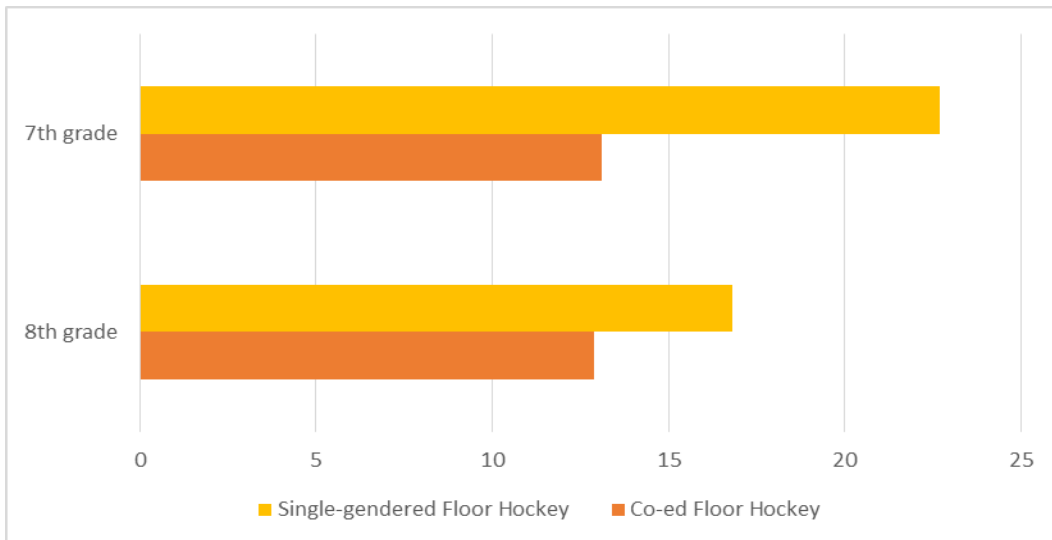


Figure 5. Increase in Touches-Floor Hockey. This graph illustrates the increase in touches by females during co-ed and single-gender floor hockey play.

The seventh grade females increased their rate of participation by 73% when in a single gendered setting. The eighth grade females increased by only 30%, but it is still a substantial increase. Overall, the females demonstrated an increase in participation in the single-gendered setting during floor hockey.

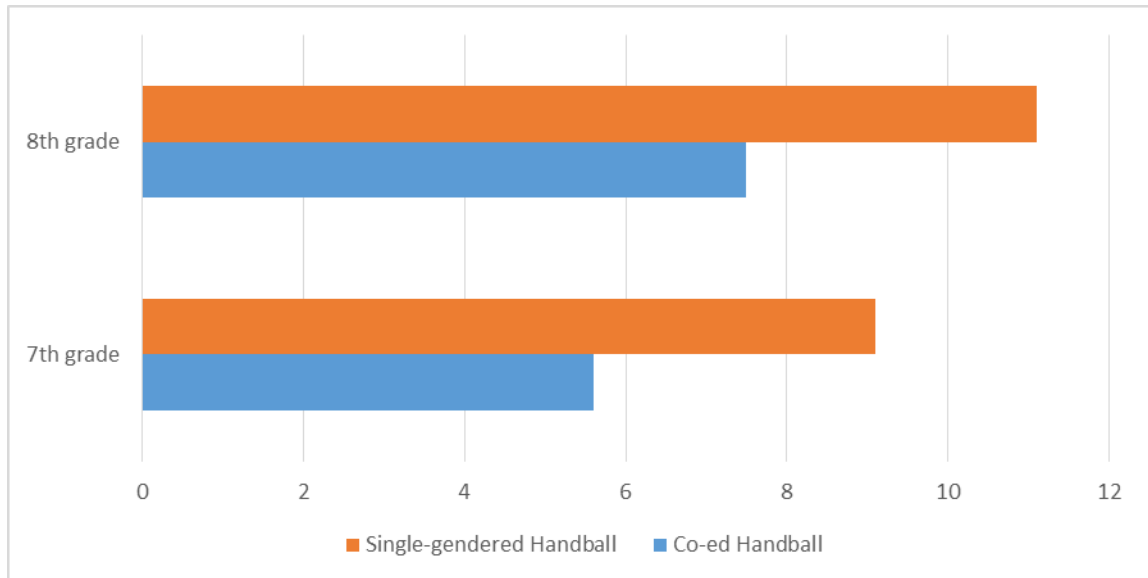


Figure 6. Increase in Touches During Team Handball. This graph illustrates the increase in the number of touches between single-gendered and co-ed handball for each grade.

After our floor hockey unit, we then moved into a team handball unit with the students. We followed the same procedure and recorded the touches by 20 seventh and 20 eighth grade females. During the co-ed team handball unit, the seventh grade females averaged 7.5 touches during three minutes of play, whereas during the single-gendered unit the seventh grade females averaged 11.1 touches during three minutes of play. This is an increase of 3.6 touches and a 48% increase in participation. The eighth grade also showed an increase during co-ed play compared to single-gendered play. They recorded an average of 5.6 touches in co-ed and 9.1 touches in single-gendered play. This equals an increase of touches by 3.5 and a 62% increase in participation (Figure 6). Overall, the females demonstrated an increase in participation in the single-gendered setting during floor hockey. Figure 7 reflects the comparison of touches and increases among grades and activities. The figure exhibits a clear reflection of the seventh and eighth grade females' inclination to be more active while in a single gendered setting.

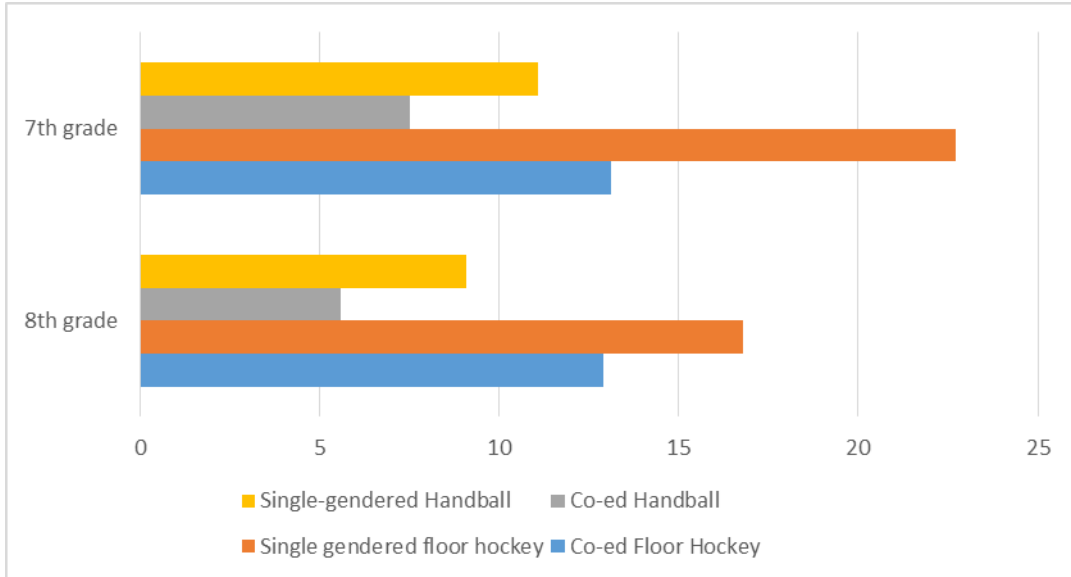


Figure 7. Comparison of Touches. This graph illustrates the comparison of touches between both units in both settings for each grade.

While the students participated in the floor hockey and team handball units, we also videotaped three minute clips to gauge participation through observation. We recorded multiple sections of play (co-ed/single-gendered floor hockey and co-ed/single-gendered team handball) throughout the hour. We then reviewed the recordings and filled out an observation checklist (Appendix C) for each section. During the seventh grade co-ed floor hockey unit the females were communicating with the team during play and playing both defense and offense. Some of the females were moving with the speed of play; they did not show signs of enjoyment (such as smiling, laughing, and positively engaging), and they displayed continuous movement toward the puck until the males moved past them. The females would then stop their progress, sigh, and quit attempting to play the puck. However, during single-gendered play, females clearly communicated during play, set the speed of play, played both defense and offense, displayed continuous movement throughout the game, and showed signs of enjoyment. The females were celebrating each goal and saying “nice pass” to each other.

During eighth grade co-ed floor hockey, we observed similar results. The only observation we could confidently see was that the females were playing both defense and offense. There were very few signs present of the females communicating with their team, moving with the speed of play, and displaying continuous movement during co-ed play. When the play turned to single-gendered, the females were moving with the speed of play, communicating with the team during play, playing both defense and offense, and they were more enthusiastic. At times they displayed continuous movement throughout the game but were lacking in defensive movement.

Team handball produced slightly better results. The seventh grade females showed effort at first with the following characteristics: moving with the speed of play, communicating with their team during play, and playing both defense and offense. However, as the game proceeded and the males dominated play, the effort from the females dissipated. The females showed no signs of enjoyment and their continuous movement waned. In the course of single-gendered team handball, the females were communicating with the team during play, playing both defense and offense, cheering their teammates on, and displayed continuous movement except when a player held the ball for a longer than normal amount of time. There were five females that consistently were not moving with the speed of play, possibly due to their lack of interest in the activity, but otherwise the females participated well.

The eighth grade females were communicating during team play, playing both offense and defense, and showing signs of enjoyment while playing co-ed team handball. They did not consistently keep up with the speed of play and did not show continuous movement throughout the game. Single-gendered team handball generated all five areas

on the observation checklist. They were moving with the speed of play, communicating during team play, playing both offense and defense, displaying continuous movement throughout the game, and showing signs of enjoyment. The observation checklist clearly shows effort by all females in each area of play during both co-ed and single-gendered. However, the level of effort is clearly favorable in the single-gendered setting.

The final data analysis we chose was grading our females based on a participation rubric (Appendix D) for each section of play. We found a slight increase overall in both the seventh and the eighth grade rubric score when comparing co-ed play to single-gendered play. The overall average score for seventh grade females in co-ed floor hockey was 12 out of 15. Single-gendered seventh grade floor hockey overall score increased to 12.5 out of 15. Even though it is a small increase, it represents greater effort. The eighth grade females averaged 11 out of 15 participation points in co-ed versus 11.8 out of 15 in single-gendered floor hockey. Team handball yielded similar slight increases during single-gendered play for both seventh and eighth grade. Figure 8 displays the increase between co-ed play and single-gendered play in both floor hockey and team handball.

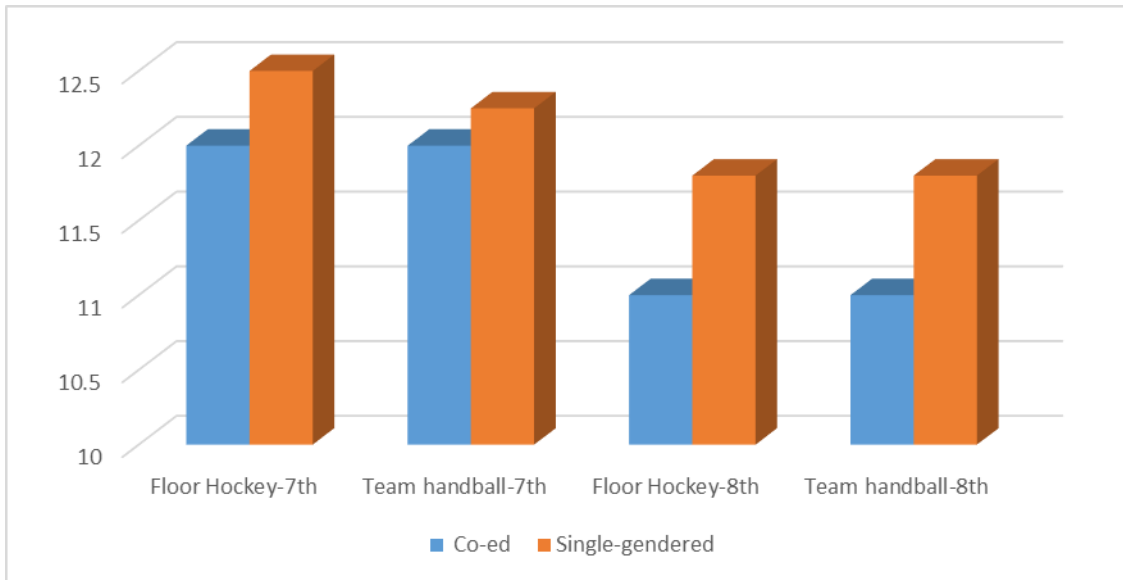


Figure 8. Increase in Play. This graph illustrates the increase demonstrated in each unit for each grade.

The data collected from this study makes it clear that providing competitive contact activities in a single-gendered setting increases participation by allowing females to control the speed of play, feel more comfortable, and increase their possession during play. We need to offer more opportunities in a single-gendered setting throughout our physical education curriculum. We expect the data we collected will be useful to us as we implement an action plan that is intended to increase the participation of our female students.

Action Plan

Our research substantiated that female participation does increase in a single-gendered setting during competitive contact activities in a seventh and eighth grade physical education setting. Throughout the action research, the seventh and eighth grade females displayed multiple forms of improvement. Video observations revealed more movement and more engagement in a single-gendered setting than in a co-ed setting, indicating the female students displayed more movement and more engagement which

equaled higher participation. The feedback questionnaire provided a clear preference for a single-gendered setting among the females. Sixty-one percent of females felt they participated fully in a single-gendered setting compared to 14% of females feeling they participated fully in a co-ed setting. When tally marks are contrasted between a co-ed and a single-gendered setting, the females increased touches in the single-gendered setting. With such evidence of an increase in participation during a single-gendered setting, we are obligated to adjust our teaching practices.

In light of the evidence, the first adjustment to future teaching practices will be to offer competitive contact activities in a single-gendered setting. Each grade (seventh and eighth) will be divided into male and female sections so skills and play can be accomplished in a setting preferred by most of the female students. Each unit typically runs for two weeks, so it will be possible to offer two or three days of co-ed activities at the end of the units. Even though our evidence shows an increase in participation in the single-gendered setting, a handful of seventh and eighth grade females commented they prefer the level of competition attained in a co-ed setting. We feel it is important to create a setting for them to improve beyond the single-gendered setting as well.

An additional adjustment we will make is to give the participation feedback questionnaire to all incoming seventh grade students. We will use this to discover how many females prefer the single-gendered setting versus the co-ed setting. This action will allow us to gauge the preference for all incoming students to our program so we can adjust our offerings accordingly.

The third adjustment we plan to put into practice is to modify the participation rubric focus more on skill improvement during participation. We tracked attitude, effort,

and movement but we felt the rubric was too general. We would prefer to grade based on a rubric specific to the activity. For example, it was hard to grade the floor hockey movement based on the rubric because the females chose their own positions to play which affected their movement at times on the floor (e.g., goalie, defense, and forward).

We believe our research will positively impact female learning in the physical education setting. Females will increase skill development because they will be able to work at their own pace. They will also clearly participate more which will improve their physical fitness. They will gain confidence in their abilities to perform the required activities throughout the year. By participating in a single-gendered setting they will experience more enjoyment and less fear of injury. The males might also benefit from a single-gendered setting by being able to play at a more rapid pace. They also might be able to play without being concerned their play will hurt female students.

A potentially important area for future research would be to gauge the male students' perspective regarding their views about participation in a co-ed versus single-gendered setting. We wonder how the males would respond to our questionnaire regarding what they like and dislike about each setting. We would use the same questionnaire for the male students at the beginning of the year, just as we would for the female students.

During our research process, there were a few variables we felt affected our results. One of the main variables was the position students chose to play during the activities. When we recorded touches for the females during floor hockey, the forwards clearly had more opportunities to touch the puck than the defensive players and/or the goalie. We felt the students' personalities affected their level of participation in each

activity. The more quiet/shy females were less likely to chase after a ball than the more outgoing females. We also found that females involved in extra-curricular activities (e.g., basketball, volleyball, softball, and hockey) were more aggressive during both co-ed and single-gendered play. Finally, we found the activity itself was a variable. Some of the students simply did not like floor hockey or team handball and it affected their level of participation.

In conclusion, seventh and eighth grade females participated more in a single-gendered setting during competitive contact sports. The evidence we collected during our action research project demonstrated a need for changes to increase participation among female students. Our action plan is to implement changes that will increase opportunities for a single-gendered setting within our curriculum during competitive contact activities.

References

- Couturier, L. E., Chepko, S., & Coughlin, M. A. (2007). Whose gym is it? Gendered perspectives on middle and secondary school physical education. *Physical Educator*, 64(3), 152-158. Retrieved from <http://search.proquest.com/docview/232999744?accountid=26879>
- Fletcher, T., Ph.D. (2008). Grouping students by ability in physical education: The good, the bad and the options. *Physical & Health Education Journal*, 74(3), 6-10. Retrieved from <http://search.proquest.com/docview/214327072?accountid=26879>
- Gabbei, R. (2004). Achieving balance: Secondary physical education gender-grouping options. *Journal of Physical Education, Recreation & Dance*, 75(3), 33-39. Retrieved from <http://search.proquest.com/docview/215766987?accountid=26879>
- Gibbons, S. L., Temple, V. A., & Humbert, M. L. (2011). Enhancing girls' participation in physical education: A framework for action. *Physical & Health Education Journal*, 77(3), 16-23. Retrieved from <http://search.proquest.com/docview/1022654434?accountid=26879>
- Hannon, J. C., & Ratliffe, T. (2007). Opportunities to participate and teacher interactions in coed versus single-gender physical education settings. *Physical Educator*, 64(1), 11-20. Retrieved from <http://search.proquest.com/docview/233003185?accountid=26879>
- Hill, G. M., Hannon, J. C., & Knowles, C. (2012). Physical education teachers' and university teacher educators' perceptions regarding coeducational vs. single gender physical education. *Physical Educator*, 69(3), 265-288. Retrieved from <http://search.proquest.com/docview/1372483807?accountid=26879>

Shimon, J. (2005). Red alert: Gender equity issues in secondary physical education.

Journal of Physical Education, Recreation & Dance, 76(7), 6-10. Retrieved from

<http://search.proquest.com/docview/215759519?accountid=26879>

Appendix A
Participation Feedback

Directions: Please circle the correct response to each question. Please include specific details in written responses.

- 1) Do you feel you are actively involved more in co-ed play or single gendered play?
 - Co-ed play
 - Single gendered play
 - Both equally

- 2) How would you rate your participation in co-ed play?

Do not participate 1 2 3 4 5 Fully participate

- 3) How would you rate your participation in single gendered play?

Do not participate 1 2 3 4 5 Fully participate

- 4) Do you prefer to play competitive contact sports in a single gendered setting or a co-ed setting, such as football, soccer, and touchdown?
 - Co-ed
 - Single gendered

- 5) What do you like about co-ed play? (List specific details)

- 6) What do you dislike about co-ed play? (List specific details)

- 7) What do you like about single gendered play? (List specific details)

- 8) What do you dislike about single gendered play? (List specific details)

Appendix B
Participation Tally Sheet

Each randomly selected student will be observed for three minutes during active participation in their required physical education class. Once during co-ed play and once during single-gendered play.

7th Grade

Initials of student	Date	Activity	Touches during Co-ed Play
			Touches during Single-gender Play

8th Grade

Initials of student	Date	Activity	Touches during Co-ed Play
			Touches during Single-gender Play

Appendix C
Video Observation Guide

We will be viewing random videos representing five-minutes of play during co-ed and single-gender play. We will complete the following checklist based on what we see during the videos:

_____ Co-ed _____ Single-gendered _____ activity

Check if Present:	Characteristic
	Girls are moving with speed of play
	Girls are communicating with team during play
	Girls are playing both defense and offense
	Girls display continuous movement throughout the game
	Girls show signs of enjoyment

_____ Co-ed _____ Single-gendered _____ activity

Check if Present:	Characteristic
	Girls are moving with speed of play
	Girls are communicating with team during play
	Girls are playing both defense and offense
	Girls display continuous movement throughout the game
	Girls show signs of enjoyment

_____ Co-ed _____ Single-gendered _____ activity

Check if Present:	Characteristic
	Girls are moving with speed of play
	Girls are communicating with team during play
	Girls are playing both defense and offense
	Girls display continuous movement throughout the game
	Girls show signs of enjoyment

Appendix D
Participation Rubric
7TH and 8TH Grade PE

Characteristic	5	4	3	2
Attitude	<p>Leads others to improve.</p> <p>Consistently demonstrates an extremely positive attitude.</p> <p>Never fools around.</p> <p>Consistently encourages and is kind to classmates.</p> <p>Consistently demonstrates good sportsmanship.</p>	<p>Demonstrates a positive attitude.</p> <p>Rarely fools around.</p> <p>Often encourages and is kind to classmates.</p> <p>Almost always demonstrates good sportsmanship.</p>	<p>Demonstrates a positive attitude.</p> <p>Sometimes fools around.</p> <p>Sometimes encourages and is kind to classmates.</p> <p>Sometimes demonstrates good sportsmanship.</p>	<p>Disturbs the harmony of the group, interrupting others' focus and efforts.</p> <p>Typically fools around and is generally uninvolved.</p> <p>Demonstrates poor sportsmanship</p>
Effort	<p>Consistent in giving best efforts.</p> <p>Strives to improve on learned skills.</p> <p>Helps others to develop their own skills.</p> <p>Listens attentively: shows active listening.</p> <p>Asks questions</p>	<p>Gives his/her very good effort even if he/she doesn't enjoy the activity.</p> <p>Attempts to learn the necessary skills.</p> <p>Generally listens well.</p> <p>Occasionally asks questions for</p>	<p>Usually tries even if he/she doesn't enjoy the activity.</p> <p>Responds when prompted.</p> <p>Tries to learn some new skills.</p> <p>Attempts to listen.</p>	<p>Participates only if he/she enjoys the activity.</p> <p>Rarely attempts to learn new skills.</p> <p>Does not demonstrate listening behaviors.</p>

	for clarification.	clarification.		
Movement	Covers all areas of the floor/field in order to successfully help team succeed.	Attempts to cover half of the floor/field in order to successfully help team succeed.	Covers only area needed to play position on offense or defense, but not both. Does not show an interest in helping team become successful.	Covers only a small area on floor/field where they started the game. Shows no interest in helping team become successful.