

Exploring the Connection Between Soccer and Social Development

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ABSTRACT

Social development is the advancement of variables to help a person progress socially. There has been a progressive academic conversation into the idea of whether team sports, such as soccer, can help a player develop socially. This study seeks to further this academic conversation by seeing if a cooperative play, such as passing, in a traditional game of soccer can demonstrate social development within the game and to see if more soccer experience plays a role. A quantitative study was done by counting the number of passes between each team with differing levels of experience and seeing if more soccer experience explains the differing number of passes. To further investigate experience, a survey was conducted and completed by each player in the soccer matches to see if players were aware of their experience and social development skills. This study's findings were that in the soccer games, there seemed to be no significant difference in the amount of passing between the teams of different experience levels that was due to differences in social development but seemed to only be due to a difference in skill level. This study presented a different approach and finding to the academic conversation. Looking towards the future, it is recommended that further research should have a set strategy to determine experience to make the experiment clearer.

Introduction

Sports are popular among American youth and can be used to teach children about friendship and getting along with others. The United Nations proved this by declaring sport a tool for social development and peace in 2003 (Segura et al., 2018). Sports can be used as a learning tool and to determine how different people handle certain situations. According to Bessa et. al., "Older students, when participating in [sport education] programs, are likely to develop personal and social skills." Sports have basic social fundamentals such as communication that are necessary to win games and events. By participating in sports, children must learn to communicate and interact with each other which leads to real life skills. Also, according to D'Andrea et.al., "Physical activity in general, and team sports in particular, have the potential to help at risk youth develop increased self-efficacy, improved peer relationships, better physical health, and more goal-directed activity." Sports have many positive effects on its participants and can be used to teach new skills.

Although all sports cause growth, soccer particularly stands out because it has become a learning tool. According to an article called, "TOPSoccer's impact: Washington Youth Soccer," there is a program called TOPSoccer that is meant to help children with disabilities who are unable to play a traditional soccer game. This program allows these children to play and develop their own social skills in a non-traditional way. Soccer can be used in many ways, whether traditional or nontraditional, it can help people learn to develop socially.

Literature Review

There is an abundance of studies that have looked at the connection between group sport and social development. Social development is "a directed social process, as a result of which there is a continuous growth of certain variables,

important for a given society,” (Sztumski, 2019) and can be determined through multiple perspectives. In a study called “Soccer for Peace and Social Development,” written by Joel Rookwood, a course leader of sport business management from the University of Central Lancashire, observed two short-term soccer programs meant to help young people obtain and grow certain abilities and characteristics to help them in society. First, located in Liberia, the “STAR” project helps ex-combatant children learn how to merge back into society. This program used contemporary soccer, in ways such as relays and competitive games, to promote self-discipline, truthfulness, appreciation, and respect. The second program, called “Football for Peace” which is a British Universities project in Israel that uses a more relaxed method of teaching to promote trust, respect, neutrality, responsibility, and inclusion. This program looks for teachable moments to help their participants learn how to deal with conflict among themselves. Both projects are in countries that have been experiencing war, so these programs were meant to teach children to be ready to go back to regular society. It became evident that soccer can be used to develop social skills and it shows a connection between soccer and social development.

One study, conducted by a group of scientists in Japan in 2018, looked at how strategic cooperation was evident in group sport, specifically basketball. This study observed multiple plays such as, “on the ball” plays and “off the ball” plays in basketball to establish how players cooperate, even if the ball is not around them. “On the ball” plays are those that involve the ball, such as dribbling, while “off the ball” plays are those that don’t involve the ball. A play called “screening” was also observed which is when an offensive player stands in the way of a defensive player to prevent the defensive player from getting to a different offensive player who has the ball. The scientists also observed off-ball screen play, which was determined to be “a screen play in which the candidate screener and user do not possess the ball when the distance was the shortest.” This specific play was chosen to be observed because it is “considered to be sufficient to understand a global tendency and they happen on and off the ball and they are used in “various situations and locations.” To observe these plays the scientists set up a mock 5-v-5 basketball game with ten males from a top-level university basketball team to play in this game. This game took 94 minutes, where 316 points were scored, and 55 plays were analyzed. Although this study looked at strategic cooperative plays between basketball players, there is little to no research done to analyze a specific strategic cooperative play in a soccer game. It was then determined that to study a cooperative play, it had to be one that happens a lot so there will be enough data to analyze. The researcher then decided that to study cooperation between players on a soccer team, the cooperative play of passing will be used to study social development.

Although the previous studies discussed the positive effects of sports on personal development, some researchers believe that sports can also have negative effects. A study, written by Roger C. Rees, a professor at Texas Christian University an expert in sociology and sport fitness, and Frank M Howell, from Mississippi State University, discussed the effects sports can have. The researchers explain the “sports builds character” idea which claims that sports can make people better in multiple ways. For example, sports can have a “positive effect on educational attainment,” they can “get ahead in the stratification system of rewards.” After addressing the sports building character idea, the researchers discuss the “sports builds character myth” which is the idea that sports have negative effects on individuals’ character, such as teaching individuals antisocial behaviors. To study these ideas, the researchers designed a quasi-experimental design where they took “pre” and “post” test personality measures of high school students in their sophomore year and a year after they graduated. They measured personality through “20 indices of social orientations, affective traits, value orientations, and attitudes,” and looked at data such as if these players played on varsity sports teams, and how much they participated. After examining the data and results, it was concluded that sports can be looked at in two ways. It can be seen as having a prosocial influence as it helps socialize athletes and gets them settled into the occupational culture but can also be seen as having an antisocial influence as it can contribute to aggressive, irritability, and a loss of self-control and independence.

Using these studies, the researcher decided to study the cooperation between players in a soccer game play. The researcher used the study conducted by Hoho et.al to choose what play the participants would use to observe cooperation. With the idea of having enough data and to pick a strategic play, the researcher chose passing. With passing, they will show cooperation between players that do and don’t know each other. By using these sources, the

research question was developed: How does soccer connect to social development through the cooperative play of passing?

The rationale for this research is to help soccer players learn about the positive benefits of soccer and they can learn how this specific play can show cooperation through passing. By learning about this method of cooperation, individuals can potentially learn how to use soccer as a learning method. Passing can then be used to teach individuals how to cooperate with other players to help themselves grow and win the game.

Method

After reviewing the sources above, the researcher hypothesized that players that have more experience playing soccer will have more social development skills and they will show that in their gameplay. To study this hypothesis, the researcher set up a qualitative study to explore the relationship between soccer and cooperation.

Previous sources were used as a basis of this method. A study conducted by Fujii et. al., discussed how they used a mock basketball game to study the cooperative behaviors between players by looking at a specific play, called screening. This game was between two teams comprised of experienced basketball players to collect data from. To get accurate data, the researchers in this study used a STATS SportVU system to record and calculate the data. This system is located above the basketball court and it tracks the location of the ball and every player at a rate of 25 times per second. Due to this technology being not easily accessible and expensive, it was unable to be used in this research project.

This method was adapted to fit the topic of interest of this research paper because the researcher is also looking at cooperation between players in a sports game, although this research study focuses on a different sport. The researcher decided to set up mock soccer games to study how soccer is connected to cooperative skills.

This experiment was set up by having 2 mock soccer games, one sandlot co-ed game (where the teams are picked by the players) and one girl's game (where the teams are picked by the coach). The two types of game (co-ed and girl's) was chosen so that the games can be separated into those who have played together before (girl's) and those who have never played together before (co-ed). These games would be recorded and analyzed to see how the amount of soccer experience each player had affected their cooperation in the games.

The cooperation between the players will be recorded based on a specific cooperative play. The idea to focus on one particular play to determine cooperation came from the study written by Fujii et. al., The specific play that was decided upon to determine cooperation was passing because it is one that involves trust and cooperation between multiple people to complete correctly. Before beginning the experiment, the researcher ran a test run to determine if the footage could be analyzed by recording and to decide the number of cameras and the placement needed. After getting permission from the coach of the high school's boys soccer team, the researcher recorded about 10 minutes of gameplay and counted the number of passes. After running this test run, the researcher decided that for this experiment only one camera was needed to record the game, and the camera had to be elevated to make sure the whole game was seen.

The first mock soccer game was a sandlot co-ed game which was to act as a control. This game will be used to find a normal number of passes that should be completed in a 45-minute game to use to compare with the teams of the girl's mock game.

Since the co-ed game was meant to be sandlot and controlled by the players, there were no referees at this game, and it was completed off campus on a traditional soccer field at a recreational park in the area. Due to the low amounts of players for this game, the field was shortened so that the players could focus more on passing and they wouldn't have to run an unnecessary amount. This shortened field acts as a delimitation to the study because this field size doesn't match the size of the field for the girl's game. The players chosen for this game were all players that had played soccer before and knew the rules of the game. The teams were then chosen using a sandlot pick where the two players picking teams, or the "captains" who had the same amount of experience. By observing this game, the

researcher could determine if the cooperation among players was based solely on the players that they were playing with, or if it was based on the experiences these soccer players have had with this sport.

The participants that were chosen to compete in the girls' mock soccer game were primarily members of the school soccer team to ensure that these players have played together before. By picking these players and making sure they had played soccer before, it was already known that all the participants had some form of soccer experience and weren't random players that would skew the results. These players were also chosen because it would make sure that the players were in the correct age group, which is adolescents. This experiment was approved by an IRB committee and all the players had to sign consent forms and hold harmless forms, in case of any injuries (shown in Appendix A and B).

The girls' mock soccer game was held on the high school field, so that the terrain and the size of the field was a controlled variable and would not affect the play of the soccer game. The field was shortened due to there being not enough players to play a full field game. The participants all had the proper equipment to compete in this game which are shin guards, soccer socks, and cleats. The proper equipment was also meant to keep all the players safe from injury. Another aspect of the game, which was also meant to keep the players safe was that two certified referees were on the field watching and monitoring the game to make sure all the rules and regulations of the games were followed.

For the girls' mock soccer game, the participants were then separated into two teams, one with more experienced players and one with less experienced players. Experience was determined by factors including how long the player has played on the high school team and if the player had played on a club team outside of school, which is a team where players can play with others in their city and get extra training. This was used as a measure of experience because club teams are on a higher level than high school teams. To avoid any complications, the coach of the team split the players into these two teams. After the participants had been separated, they played a 45-minute game which was recorded from a high angle to make sure all the players and passes were recorded.

After each game, each player completed a survey (shown in Figure 1-6) that asked questions surrounding the idea of their comfortability in the players they were playing with and the confidence in their own skills. This was meant to determine if confidence and comfortability played a separate role in how players cooperated with others on the field and if this affected their amount of passing. If the results of the survey are significant, which will be determined using a t-test, this will show me the confidence levels of each player and how they would measure their own social development, which can be used for my analysis of social development.

Survey Date:
Fill in the number in which you feel answers the question the best.

Figure 1. Title and instructions of survey. There was no place for a name so that the players had anonymity.

1) How well do you feel you know the other players on your team?
(1-Not at all, 5-Very well)
① ② ③ ④ ⑤

Figure 2. Question 1 of the survey.

2) How confident do you feel in your passing skills?
(1-Not confident, 5- Very confident)
① ② ③ ④ ⑤

Figure 3. Question 2 of the survey

3) How well do you feel you communicate with others?
(1-Not well, 5-Very well)
① ② ③ ④ ⑤

Figure 4. Question 3 of the survey.

4) Do you feel that playing a soccer game helps you
communicate and cooperate with others more?
(1-Not at all, 5-Definitely)
① ② ③ ④ ⑤

Figure 5. Question 4 of the survey.

5) Do you feel more confident in passing the ball than
dribbling the ball?
(1-Not at all, 5-Definitely)
① ② ③ ④ ⑤

Figure 6. Question 5 of the survey

The researcher will determine if soccer experience plays a role in cooperation by counting the number of passes between players and seeing if there is a big difference in the amount of passing that has been completed by these players. More passes would indicate greater signs of cooperation, whereas less passes would illustrate the opposite.

Results

In this experiment, the researcher first analyzed a 45-minute sandlot game where they focused on the specific cooperative play, passing. The game consisted of multiple soccer players that were split into random teams (the green and blue team). The number of passes and the amount of time of possession for each team was measured. Both teams had similar amounts of passes with the green team only having 3.75% more passes than the blue team (green=157 passes; blue=163 passes mean=160 passes). The amount of time in possession between the two team was not as similar with the blue team having 23.21% more possession time than the blue team (green= 481.41 seconds; blue=607.84 seconds mean=544.63). The amount of time did not add up to 45 minutes because most of the time the ball was not in play, due to it being kicked out of a goal was scored, or there was no clear possession of which team had the ball.

Next, the researcher analyzed a 45-minute mock soccer game with the girls' soccer team. This group was separated into two teams as well, the green and the blue team. For this specific game, the green team consisted of more experienced players and the blue team consisted of less experienced players. The number of passes and amount

of time of possession was also measured in this game. These teams had less similar data than the previous game. In this game, the green team had 50.75% more passes than the blue team (green=126 passes; blue=75 passes). The amount of time of possession was also not similar for the two teams with the green team having 63.62% more possession than the blue team (green=833.04 seconds; 430.94 seconds). This game's possession time also did not add up the total time because of the reasons stated previously.

After each game was completed, each player completed a survey asking questions related to their confidence in their soccer skills and in their social development abilities. For the sandlot game, there was a comparison between the answers of each team.

Analysis

After observing the results of the sandlot game, it was determined that a normal number of passes between soccer players who do not know each other in a 45-minute game is about 160 passes. The girl's game consisted of one team with more experienced players (green team) and one with less experienced players (blue team). It was predicted that due to the less experience the blue team had, they would have completed less passes than the green team. This prediction held true with the green team completing 50.75% more passes. It was also predicted that the green team, due to their experience playing soccer, should have more passes than the teams in the sandlot game. This prediction did not hold true. It was found that the green team completed only 126 passes with more possession time than the average of the two sandlot teams. The data shows that the more experienced players in the girl's mock soccer game did not show more cooperative behaviors, and the difference in passing between the two teams could have been due to a difference in skill between the teams.

After the games, there was a survey completed by each player that participated in the games. To compare the answers of the two teams, a t-test was run to determine whether there was a significant difference in the answers of the teams. For this test, the researcher created a null hypothesis and an alternative hypothesis. The null hypothesis was that there was no significant difference between the mean answers of the two teams for each question. The alternative hypothesis was that there was a significant difference between the mean answers of the two teams for each question. After completing the test for the answers to the sandlot game, it was determined that the researcher failed to reject the null hypothesis. This means there was no significant difference between the mean answers for each team. The bar graphs for each question (Appendix A) show the mean answer for each team and the standard deviation bars that show how much each team varies in their answers to each question. The bar graphs for sandlot game all show evidence of no significance in the answers due to their overlapping standard deviation bars (shown in Figure 7).

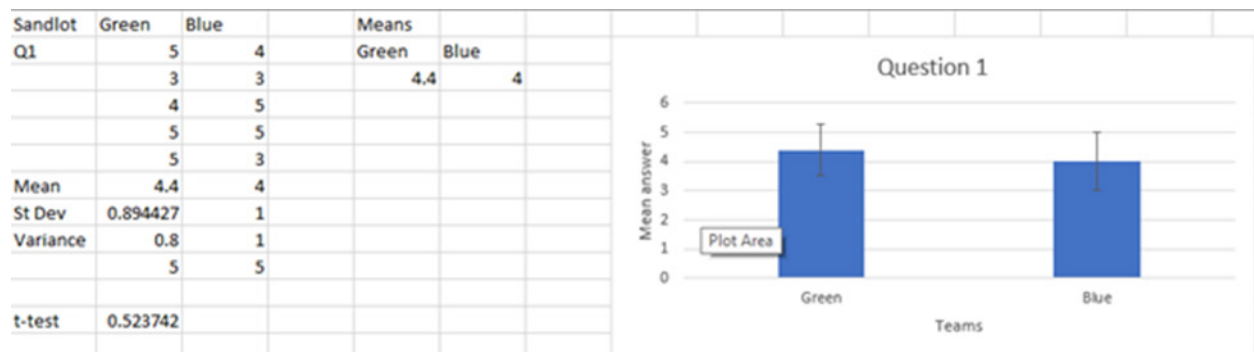


Figure 7. Example of t-test for sandlot survey questions for question 1.

This test was also completed for the girls' mock soccer game to determine if there was a significant difference in each team's answers, due to the teams having different experience levels. The same null and alternative hypothesis

were used for this test. After completing the test, it was determined that we fail to reject the null hypothesis, meaning there was no significant difference between the answers to each question for each team. This is also evident in the bar graphs for this game (Appendix B), due to the overlapping standard deviation bars for each question (shown in Figure 8).

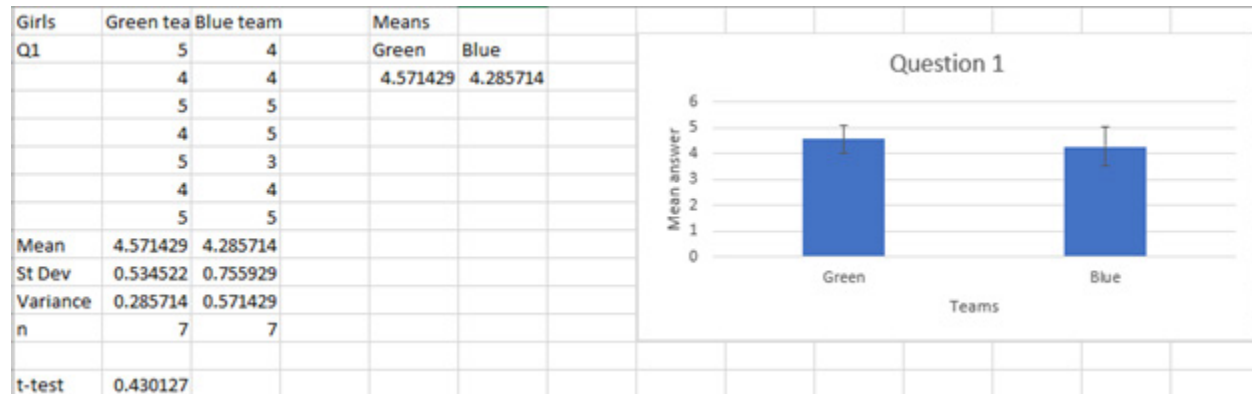


Figure 8. Example of one of the t-tests run for the girl’s survey answers for question 1.

Conclusion

When examining how soccer shows social development through the cooperative play of passing, the researcher hypothesized that players that have more experience with soccer would have developed more social skills from the sport and would show that in their gameplay. However, the researcher found that this hypothesis was false. This means the more experienced team in girl’s game did complete more passes than the less experienced team, but they did not have more passes than the control team in the sandlot game. The experienced team in the girl’s game did not complete more passes due to having developed more cooperative skills, but it was due to an advantage of having more basic soccer skills. The cooperative play of passing did not show further social development skills. The survey, which was meant to determine if there were any differences in the confidence and comfortability level the players had with themselves and their teammates showed to be no significant difference between the answers of the more experienced players and less experienced players.

After completing the research process, the researcher found that most studies of this topic determined that soccer and social development were connected. The conclusion of this study disagrees with that connection because the results of the experiment show that differences in the number of passes in this study are due to a difference in skill. Although the researcher has made this conclusion, there is still further research that can be done. For those interested in conducting research in this field after reading this work, there are many options. Future options include repeating this experiment with different teams and players to see if the results match. Research can also be done to see if there is any difference in the connection between soccer and social development with male soccer players.

Limitations and Implications

Although the researcher tried to conduct this experiment to the best of their ability, there were some limitations to the experiment. The researcher attempted to have a boy’s mock soccer game like the girl’s mock soccer game, but for unforeseen circumstances it was unable to happen. The researcher completed a boy’s mock soccer game, but due to a limited number of players able to participate in the game, the results of that game were invalid. If the researcher could

have completed that game with valid results, it would have made the conclusion stronger, but due to the circumstances it was unable to happen.

Other limitations the researcher faced was the field space and player count difference in the co-ed sandlot game and the girl's mock soccer game. The number of participants in the two games were different and to accommodate this difference in players the field size was different. In the co-ed game, there was enough people to play and have valid results, but there weren't enough players to play a game with the full field because the players would have been too tired to play effectively. Due to the number of players, only a quarter of the field was used to accommodate the players. In the girl's mock game, there were a good number of players, but there weren't enough players to complete a full field game, although this game had more players than the co-ed game. The shortness of players led to the field being shortened to accommodate the players and about 60% of the field was used for this game. The difference in the number of players in the two games was a limitation because with the same number of players, the results would have been clearer. Although these limitations would have made the results of the experiment clearer, they do not invalidate these results because they would not have made a significant change in the conclusion of the experiment.

After the research was complete, it was found that there was a limitation that was unforeseen and was unnoticed. The experiment did not have a set number or strategy to determine experience among players. This limitation was overlooked because the researcher had previous passion and knowledge for the sport, so it was a factor that seemed obvious and it was overlooked. The research would have been strengthened if there was a set way to determine a player's experience, such as on a scale, but the researcher faced researcher bias due to their passion for the sport, and it was a factor that was only realized after the research had been complete.

This new conclusion in the topic of interest affects the participants of the study because now that they know that the difference in passing is not solely connected to social development and seems to be based on skill, these players can now focus on refining their skills. The players can learn that passing is important in the sport of soccer and the way to complete more passes is to practice it and work on the skill of passing. Although there is no connection between more experienced players completing more passes based on social development skills acquired in the game, there is still cooperation in soccer and to cooperate effectively, the players need to refine their passing skills.

This study changes the academic conversation because, as shown in the literature review, most of the studies about this topic show that there is a clear connection between social development and soccer, but this conclusion is different. This conclusion isn't one that can fall in with the other studies about this topic, but it gives another insight in the conversation. It shows that more experienced players don't complete more passes because they have learned cooperative skills, but because they have the skill to complete more passes. This study can also help those who are looking for ways to develop their social skills. Before reading this study, one may have thought that a good way to learn these skills is through sports such as soccer, but after reading this research they can learn that social development isn't best connected to sports, and they can look into different ways to refine their social skills.

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