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## Total Years Played in Sport versus Years Played Competitively as a Predictor of Sports

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Read, approved, and signed by:

Thesis adviser(s) Dr. Krista Cline 5/6/23  
Date

Reader(s) Ashley Hutson 5/3/23  
Date  
Ashley C. F. Hutson  
Date

Certified by \_\_\_\_\_  
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**Total Years Played in Sport versus Years Played Competitively as a Predictor of Sports**

A Thesis

Presented to the Department of Sociology

College of Liberal Arts and Sciences

and

The Honors Program

of

Butler University

In Partial Fulfillment

of the Requirements for Graduation Honors

Cassidy Faith Spencer

5/3/2023

## ABSTRACT

Sports performance is a heavily studied topic that is an important factor in recruitment for college and professional level sports as well as in the multi-billion-dollar sports gambling industry. One variable lacking in previous sports performance research is the number of years played an athlete has played in total as well as the number of years they played at a competitive level as a predictor of sports performance. Using a Qualtrics survey with a self-reported, subjective measurement of sports performance, data from 23 Butler University student-athletes was collected. SPSS was used to analyze the data. Findings are inconclusive due to the small sample size. Future researchers should create a standard self-report measurement for athletes. In addition, future research should include years in total playing a sport and years played competitively as variable affecting sports performance.

## Introduction

### BASIS FOR STUDY

When predicting the sports performance of an athlete, most analysts would refer to the athlete's statistics in previous games and even other subjective factors such as coachability (Piedmont, Hill, Blanco 1999). A factor that has not been considered is how long an athlete has been playing their sport. This factor can be split into two distinct categories: time spent playing the sport leisurely or for fun, and time spent playing the sport competitively. In the NBA, rookies are players that are in their first or second year as an NBA player. It is expected that their

performance will be worse than the veteran NBA players because it is a higher level of competition. This general knowledge provides a basis for this research because it shows that the number of years and level of play or competition are a factor when it comes to sport performance. The level of competition jumps up dramatically from middle school to high school, high school to college, and of course college to professional sports. In some cases, the rules and formatting of the sport change as well. This typically means that the level of sports performance an athlete achieves does not match to more seasoned athletes when they move up to higher competition levels. This research aims to begin the scientific discussion on total years playing sports versus years competitively as a predictor of sports performance.

## **Existing Literature**

Sports performance, as well as its predictability, is a heavily studied topic. This is because the ability to predict an athlete's performance in their sport has consequences in school athletic programs, professional sports drafts, professional sports trades, and sports betting. Since it is a topic that has been studied greatly over many years, numerous factors have been tested to see if they provide a significant effect on sports performance. Studied factors include emotional intelligence (Zizzi, Deaner, Hirschhorn 2003), sports knowledge and academic ability (Dexter 2011), personality markers (Piedmont, Hill, Blanco 1999), genetics, and more. My research will expand on the current and past research conducted on the factors that contribute to and predict sports performance by introducing a new variable worth studying and including in future research on sports performance.

## **Benefits to Participation in Sports in High School and College**

The National Federation of State High School Associations claims that activities including sports “are not a diversion, but rather an extension of a good educational program” (NFHS). High school participation in team sports has been shown to be positively correlated to GPA, higher school attendance, friendships, college enrollment, life skills, less rule breaking, and more (NFHS). To back these claims up, NFHS has compiled multiple studies and their results showing specifics related to activity and sports participation and outcome results for high school students. Overton in 2001 conducted a survey of 300 Minnesota State High School League students. Notable findings from this study include the higher GPA of athletes (2.98) versus non-athletes (2.17), rate of dropping out of school for athletes (0.6%) versus non-athletes (10.32%), rate of high school graduation for athletes (99.4%) versus non-athletes (93.5%), and number of days of school missed in a year for athletes (6.3) versus non-athletes (11.9). The National Center for Education Statistics found similar positive academic outcomes with athletes scoring higher on math tests than non-athletes. These statistics were used in Dumais’ 2009 study and noted that the findings were likely partially the outcome of an increased involvement in school activities both academically and otherwise. Dumais’ statement is backed up by Knifsend and Graham’s 2012 study that found students that participated in activities such as sports had “greater sense of belonging at school, increased academic engagement, and higher academic performance as measured by grade point average according to a study of urban, ethnically diverse students (40.7% Latino; 16.8% African-American, 12.7% Asian-American, 11.2% Caucasian, and 18.5% other ethnicity or two or more ethnic groups)”.

The benefits of sports participation continue in college. Evidence of the benefit of sports participation is evident in the testimony that the athletic scholarships provided to some athletes are what made college financially feasible. Other benefits to sports participation in college include special access to academic facilities, tutors, and academic advisors that help with course scheduling, option for student-athletes to choose classes before other students, the availability of teammates as an academic resource, increased focus on academics, and in general increased usage of academic resources available to the student-athletes (Paule-Koba and Gilson 2011). Of course, not all student-athletes will find that participation in their sport improves their academic performance. Lack of time management, burnout, and overloading on hours for their sport can all make it difficult to perform well academically. The NCAA has a 20 hour per week limit on sports commitments to try to protect student-athletes from these potential consequences of participation. A qualitative study following 4 athletes in a large football program found that coaches consistently ignored the NCAA's time limit and expected the athletes to do as well if they wanted time off the bench. The 4 athletes believed that they could have performed better than other students if it were not for their time commitment to sports. Nevertheless, they still felt they were gaining invaluable life experiences that would set them up for success (Singer 2008).

The National Association of Colleges and Employers provides information on the hiring of college graduates including but not limited to starting salary, job market trends, and methods of hiring (NACE). NACE was founded to assist college students in their postgraduate career paths. Their website offers a page dedicated to career readiness and lists 8 important features a college graduate should have upon graduation to be desirable in the job market and hiring pool. These features are career and self-development, communication, critical thinking, equity and inclusion, leadership, professionalism, teamwork, and technology (NACE). One of the examples for self-

development is, “Identify areas for continual growth while pursuing and applying feedback,” (NACE). This is one of the most important skills in sports as it is crucial to be open to criticism, learning, and trying new things to improve as an athlete and progress to higher levels of competition. Communication and teamwork are key in team sports. Athletes participating in team sports must develop these skills to be successful individually and as a team. This sets student-athletes on team sports up to do well in work settings that require collaboration with coworkers, supervisors, etc. Team sports also expose athletes to people from different backgrounds from their own which promotes equity and inclusion. Professionalism and leadership are both qualities that can be learned as part of team or individual sports. Collegiate athletes learn many of the attributes of professionalism including dependability through their commitment to both their athletics and academics and being accountable as a member of a sports team or organization. Student-athletes know that their actions reflect not only on themselves but the team/organization they are a part of and so act accordingly to reflect positively. Many athletes learn leadership traits and skills as well. This is particularly true as athletes progress into seniority rolls on their teams or into professional sports. Participating in sports sets collegiate athletes up for success in the professional world.

## **Methods**

### RECRUITMENT

After receiving approval for this research from the Institutional Review Board, data was collected by sending an anonymous, voluntary Qualtrics survey to all student-athletes at Butler



University. This did not include athletes in club sports. My recruiting email was sent out to athletes via the Associate Academic Director of Athletics. This position has access to the emails of all student-athletes making them the appropriate gatekeeper to disperse my survey through. An anonymous survey was used to ensure that participants felt comfortable being honest rating their athletic performance, as well as comparing it to their teammates, and whether they were meeting their own goals as well as their coach's. The survey was open to collect responses for 30 days. The survey received 23 complete responses.

## PROCEDURE

My survey consisted of 11 questions. Question 1 collected consent from the participants. Question 2 asked, "Please write below which Butler University sport's team you are a member of".

Questions 3-7 collected demographic data. Question 3 asked "What year are you at Butler University". Question 4 asked "What is your gender?". Question 5 asked "What is your age?". Question 6 asked "What is your race?". And question 7 asked "What is your ethnicity?".

Questions 8 and 9 asked participants about the duration of their sports participation. Question 8 asked "How long have you been playing your sport competitively and leisurely?" and question 9 asked "How long have you been playing your sport competitively?".

Questions 10 and 11 are the self-assessment to measure the athlete's sports performance. The first table asked for participants to "On a scale of 1-5 with 1 being strongly disagree, 3 being neither agree nor disagree, and 5 being strongly agree, please indicate how much you agree with each statement below". In order, each statement participants were asked to rate were "I meet my

personal sports goals”, “I meet my coach’s goals in my sport”, “I exceed expectations in my sport”, “I take my sport seriously”, “I take training for my sport seriously”, “I go the extra mile to prep for my sport”, and “I feel burnt out in my sport”. Question 11 asked participants “Please indicate your performance compared to your teammates”. The statement was: “Compared to my teammates, I perform...” and there were 5 possible response options ranging from significantly worse to significantly better with option 3 being “equally”.

## SPORTS PERFORMANCE MEASUREMENT

Ideally, researchers will use athlete statistics to determine their sports performance. This includes testing stamina and strength as well as statistics from competitions. This is the most accurate way to determine an athlete’s performance in their sport. Adding in a qualitative portion that includes playmaking would be beneficial to provide a full picture. Another option would be asking the athlete’s coach to rate their performance (Smallwood 2009). Currently there is no standard measurements for athletes to self-assess their performance in their sport. I recommend that future researchers create and test a self-assessment survey for athletic performance. Because of this, I created my own measurement with the questions included in the preceding paragraph.

## PARTICIPANT DEMOGRAPHICS

Out of the 28 survey respondents, 23 completed the entire survey. The five participants that did not finish the survey have been omitted from the data pool and results. There were 18 (78%) female respondents and 5 (12%) male respondents. The college year distribution was 14

(60%) first years, 3 (13%) second years, 2 (10%) third years, and 4 (17%) fourth year students. Seven (30%) students were 18 years old, ten (43%) were 19, four (17%) were 21, and two (10%) were aged 22 or older. 18 (78%) respondents identified as White, two (10%) as African American, one (6%) as Italian, and one (6%) as Hispanic. The distribution of sports included dance team (4), women's cross country (3), women's swimming (3), men's football (3) women's lacrosse (2), women's softball (2), women's golf (1), women's soccer (1), women's tennis (1), cheerleading (1), men's baseball (1), and men's tennis (1).

## ANALYZING DATA

Statistical Package for Social Sciences (SPSS) was used to analyze the data. Within SPSS, Pearson correlation coefficient was used to determine the strength of the positive or negative relationships the variables had with one another. Determining the correlation between the variables was appropriate to discover which factors were most influential on the sports performance variables as well as how the sports performance measurement questions were related to one another.

## Results

### SPORTS STATISTICS

Figure 1 shows the mean, standard deviation, and number of responses for each of the survey questions. Years playing competitively ranged from 3 to 17 years. The mode was 10

years, the standard deviation was 3.24, and the mean was 9.7 years playing their sport competitively. The number of years the participants played their sport for leisure was found by subtracting the number of years played competitively from the number of years playing competitively and leisurely. The years played leisurely ranged from 0 to 10, the mean was 2.7 years, the standard deviation was 2.9, the mode was 0 years playing for leisure and the average was 2.7 years. The mean total years played in their sport was 12.4 years, the standard deviation was 3.26, the mode was 12, and the average was 12.4 years. The lowest number of total years played was 4 years while the highest was 18 years.

Statistical Package for Social Sciences (SPSS) was used to analyze the data. The significant results of Figure 2 are as follows. Unsurprisingly, meeting personal goals was strongly positively correlated to meeting the coach's goals (0.69) and surpassing personal expectations (0.646) both with  $p < 0.05$ . Meeting coach's goals had a strong positive correlation (0.65) to surpassing personal expectations ( $p < 0.05$ ).

Taking their sport seriously was moderately positively correlated (0.59) with taking sports training seriously ( $p < 0.05$ ). Taking training seriously for their sport had a moderate negative correlation (-0.435) to performance compared to teammates ( $p < 0.05$ ). Feeling burnt out in their sport was moderately positively correlated (0.42) to years played competitively ( $p < 0.05$ ).





sport competitively and leisurely?	Sig. (2-tailed)	.350	.972	.942	.798	.759	.860	.350	.724		.002
	N	23	23	23	23	23	23	23	23	23	23
How long have you been playing your sport competitively?	Pearson Correlation	.151	-.165	-.075	-.008	-.150	-.114	.420*	.039	.602**	1
	Sig. (2-tailed)	.490	.452	.734	.972	.493	.604	.046	.859	.002	
	N	23	23	23	23	23	23	23	23	23	23

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

## Discussion

Only one variable in the sports performance measurement had a moderate correlation to the number of years played in total or competitively. Feeling burnt out had the greatest correlation to number of years played competitively with a Pearson's coefficient of 0.42 while the same variable only had a weak correlation of 0.2 to the total number of years played. This shows that the more years an athlete has played competitively, the more likely they are to feel burnt out in their sport. While SPSS did find statistically significant correlations, the sample size is too small to be generalizable or truly statistically significant. I am unable to draw a conclusion for my hypotheses due to my lack of data.

## Limitations

This research has many limitations, and the findings are not generalizable. The first limitation is that the sports performance data is based off an untested self-reporting survey method. There is no testing or data to determine the accuracy of findings from the use of this

survey. Acquiescence bias is another potential limitation in this study. Most responses responded positively agreeing with each question stated in the survey indicating that acquiescence bias may be present.

A few respondents did not give an exact number for the years they have been playing their sport. One respondent gave the year in school they began playing so I had to estimate the number of years based on their current age and year in school. Another stated they had played with a particular youth program so these years had to be estimated as well. A couple respondents also said they had played “x+”, “x-ish”, or “over x years”. For this, I used the number provided for “x” as the number of years they had played. Because the difference between total number of years played and years competitively is subjective and not clearly defined in my survey, it is likely that the years that respondents recorded may not have been categorized correctly. This is evident because multiple respondents put the same number of years for playing leisurely, competitively, and total years playing. Another piece of evidence pointing to this is six (26%) participants said they had played 0 years leisurely. Another option is that they view playing competitively as ‘for fun’ or leisurely as well.

The biggest limitation to this study is the sample size. Not only are there just 23 participants, but they are all from the same D1, private college. Only college athletes are represented, excluding students that participate in club sports or sports outside of college. In addition, not all sports at the university are represented in the sample. Because of this, findings are not generalizable.

## FUTURE RESEARCH



I recommend that future researchers continue to investigate new factors and their significance in determining and predicting sports performance. In addition, a standard measurement template should be created for athletic performance self-assessment. While statistics are fairly accurate in showing how well an athlete is or is not doing, there are things that athletes do that are not captured in statistics that can greatly influence the level of an athlete's athletic performance. One such example is the play-making ability of basketball players. Statistics showing the number of assists a player has can be used to help measure athletic performance, however it does not show a complete picture. Statistics do not show if an athlete is calling plays, instructing their teammates, etc. This can be better captured through the collection of qualitative data and self-assessment surveys.

For some student-athletes, collegiate sports are only a steppingstone to playing professionally. Seen most in college basketball players, many students will leave their college sports program, or their college as a whole, before they have completed college or run out of eligibility in their sport. This happens when student-athletes commit to the NBA draft and forego the rest of their eligibility as a college athlete. For the athletes that choose this path, collegiate sports are a way to gain publicity and recognition to better their odds of being selected in the NBA draft. Choosing a school with a sports program with a good reputation also has its benefits in the draft. The way players view their time as a collegiate athlete could potentially have as great of an effect on sport performance as the number of years the athlete has played their sport for leisure or competitively. This is an important subject for future research.

## **Conclusion**

Athletes that met their goals in their sport were more likely to report meeting their coach's goals as well as surpassing their own personal expectations. Athletes that took their sport seriously were also more likely to take their training seriously. However, taking their training seriously led to feelings of being worse than their teammates. Athletes that had played more years competitively were more likely to feel burnt out in their sport. Because of the small sample size, findings are not generalizable to all athletes. The significance of this research is not in the data, but in its ability to introduce new factors to research on sports performance and the variables that affect it.

There is still a lot that is unknown about the variables that affect sports performance as well as the benefit to sports participation. The studies cited in this research highlight many of the positive outcomes of sports participation in high school, college, and the professional world. However, as noted, there are also consequences. There is growing concern over the capitalization of unpaid, collegiate student-athletes. This capitalization is likely a factor that could be detrimental to sports performance as well as the positive outcomes associated with sports participation.

Women made up the majority of the sample population. Research into the factors that affect women's sports performance, as well as the benefits to participation, are incredibly important. Women's sports are not as popular as men's, and typically there is less funding as well as fewer opportunities for women to play sports. The availability of sports participation needs to be ensured for female athletes, so they have the same opportunity to gain the same lifelong benefits as men do. A final suggestion for future research is exploring the relationship between sports performance, sports participation, and the benefits of the athlete's participation.

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