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Gender Gap in Athletics

Abstract

The objective of this work is to test the hypothesis that there is a harmful gender disparity in sports treatment and funding. Our objectives are to identify the issues related to unequal representation in social media, increased injury risk for female athletes, financial resource disparities, and non-compliance with Title IX regulations by the NCAA. To achieve these objectives, we conducted a literature review, interviews, and collected and analyzed data on social media representation, injury rates, funding, and Title IX compliance. The rationale for this study is to raise awareness of gender disparities in athletics that will ideally lead to advocating for positive changes that support the well-being of female athletes. Our research contributes to the state of the art in the field of gender equality in athletes and emphasizes the need for ongoing efforts to address the gender disparities.

In our discussion, we examine the implications of our findings. We concluded that; 1: There is a discrimination of opportunity between genders in athletics, which is demonstrated by the unequal representation of men's and women's sports in social media. 2: As a result of the unequal distribution of resources in athletics, there exists a clear pattern of inequality which puts female athletes at a higher risk of injury when compared to their male counterparts. 3: Financial resources in athletics can result in power imbalances. 4: Current legislation is not imposed strongly enough by athletic institutions. Overall, we conclude that urgent action is needed to promote gender equity in athletics, and our report offers evidence as to why this goal should be achieved.

Introduction

Objective

The objective of this work is to test the hypothesis that there is a harmful gender disparity in sports treatment and funding. We are limiting our work to non-professional sports, college, and pre-college. The overall theme is to bring attention to this gap to promote gender equality in sports and emphasize its importance for creating a level playing field for all athletes.

Gender equality in sports refers to the principle that individuals of all genders should have equal access to participation, resources, benefits, and recognition in sports. It means that women and men should have the same opportunities to participate in sports, receive equal treatment and respect, and have the same opportunities to excel in sports at all levels, including playing, coaching, leadership, and administration. Gender equality in sports also implies that there should be no discrimination based on gender, and that the same standards and rules should apply to everyone, regardless of their gender.

Rationale

This work is important to our society because we believe that we are filled with slow learners. There should not be a gap as it will prohibit society from reaching its full potential with

discrimination. These differences are not healthy and should be eliminated. Even after the passage of Title IX legislation in 1972, we still see inequalities in athletics. There should be no confusion about where disparities exist, and change is needed. This research will tell readers that the gender gap still exists in athletics and will ideally promote change to properly fix it.

Gender inequality in sports has been a topic of discussion for decades, and while progress has been made, disparities still exist. Research conducted by the Women's Sports Foundation has shown that women receive less media coverage, have fewer opportunities for coaching and leadership positions, and receive less funding for sports programs than their male counterparts. Additionally, studies by the Tucker Center for Research on Girls and Women in Sport have highlighted the challenges faced by female athletes, including higher rates of injury and lower levels of sponsorship. These findings prove the need for continued attention to this issue.

By creating equal opportunities for all genders in athletics, the sports industry will grow and benefit economically. Money has given people too much power over athletics furthering the gap. This research will promote the industry to invest in creating a level playing field for all athletes. Scientifically, these statistics can help enhance the understanding of factors that contribute to athletic performance and injury prevention. The quantification of disparities can help lead to more precise and targeted research into injury prevention leading to more discoveries and technical innovations that will then benefit all genders.

State-of-the-art

The state of the art includes work that was done by others that is very closely related to our objective. The search was done by using Google Scholar to review literature on gender equity in athletics including fundamental work and studies. We compiled this work by identifying statistics and information that would help support our own objective. By providing this background, our goal is to highlight the need for our study and contribute to the ongoing efforts to promote gender equity in athletics.

Injury: The gap in injuries between male and female athletes and their prevention exists but not enough has been done to make any change. The book "Warrior Girls" by Michael Sokolove includes research showing that female athletes are at a higher risk of certain types of injuries than male athletes. For example, in basketball, female athletes are two to three times more likely to experience an anterior cruciate ligament (ACL) injury than male athletes. The reasons for this disparity include differences in anatomy, biomechanics, and hormone levels. These are often overlooked. "The biomechanical differences that cause female athletes to be at greater risk of injury are largely due to a woman's wider hips, which create a larger angle where the femur meets the knee, and weaker ligaments that support the joint" (Sokolove 113).

Sokolove also points out that concussions are another injury that affects female athletes more than male athletes. "Studies show that girls are more susceptible to concussions than boys, and that their symptoms can be more severe and last longer." (Sokolove 87). Studies have also shown that female athletes have a higher rate of concussions than male athletes in sports such as soccer, basketball, and lacrosse. This may be due in part to differences in neck strength and head/neck proportion, as well as differences in the way males and females play these sports.

Female Athlete Triad is another topic Sokolove describes which affects some female athletes who have poor eating habits and exercise excessively. This affects some female athletes who have poor eating habits and exercise excessively.

To address these disparities, it is important for coaches, trainers, and athletes to be aware of the risks and take steps to prevent injuries. This includes using proper training techniques,

ensuring that athletes wear appropriate protective equipment, and monitoring for signs of injury. It is also important to provide resources and support for female athletes, such as access to medical care, nutrition counseling, and mental health services. By addressing these issues, we can help to ensure that female athletes are able to compete safely and successfully at all levels of sport.

Representation in athletics: The representation of female athletes and coaches in athletics has been a topic of discussion for decades. In the book mentioned above, “Warrior Girls”, Sokolove talks about the experiences of female athletes in high school sports. He makes sure the challenges they face and the importance of representation in sports programs stand out. One solution to this issue is to increase the number of female coaches and administrators in sports programs, as well as providing more resources and support for female athletes.

The Tucker Center for Research on Girls & Women in Sport provides a variety of research reports and infographics on topics such as female athlete health, media coverage of women's sports, and participation rates in youth sports. They also published the book "Women in Sport: Issues and Controversies," which addresses the issues and controversies surrounding the participation of women in sports. In this we learn that, despite the increase in girls' participation in sports over the years, women are still underrepresented in coaching and leadership positions in sports. In 2020, women held just 11.5% of head coaching positions in NCAA Division I sports, and women of color face even greater barriers to participation and leadership in sports. In the same year, only 8.6% of NCAA head coaches were women of color. This lack of representation hinders the progress and growth of female athletes in sports.

The Women's Sports Foundation provides research reports and data on topics such as the pay gap in professional sports, participation rates in high school and college sports, and the benefits of sports participation for girls and women. However, girls still have 1.3 million fewer opportunities to play high school sports than boys do, which further perpetuates the inequality in representation.

Providing opportunities for female athletes to succeed in the same way they are offered to men is crucial for gender equality in athletics. Ways to achieve this goal can include increasing the number of female coaches and administrators, supporting, and providing resources for female athletes, and addressing the underrepresentation of women in coaching and leadership positions in sports.

Financial resources and coverage: Money play a large role in the gender gap in athletics. Financial resources and coverage play a significant role in perpetuating the gender gap in athletics. According to the Women's Sports Foundation, female high school athletes receive 1.3 million fewer athletic opportunities, 42,000 fewer teams, and \$4 billion less in athletic scholarship dollars than their male counterparts. Only 40% of high schools offer sports for girls, compared to 60% for boys. Moreover, female athletes receive only 4% of all sports media coverage, while women's sports receive only 0.4% of airtime on ESPN's SportsCenter. Women's sports teams also receive only 0.5% of corporate sponsorship dollars. Additionally, women hold only 40% of coaching positions for women's teams, and just 2% of coaching positions for men's teams. The gender wage gap also exists in sports. In 2020, the highest-paid female athlete, Naomi Osaka, earned \$37.4 million, while the highest-paid male athlete, Conor McGregor, earned \$180 million, as reported by The Tucker Center for Research on Girls & Women in Sport. Women's sports teams receive only 4% of all athletic revenue in the US, despite making up 40% of all sports participants. While the International Olympic Committee has set a goal of gender

parity for the Olympic Games, as of the 2020 Olympics, only 48.8% of athletes were women, indicating that there is still a long way to go in achieving equality in sports.

Our Research

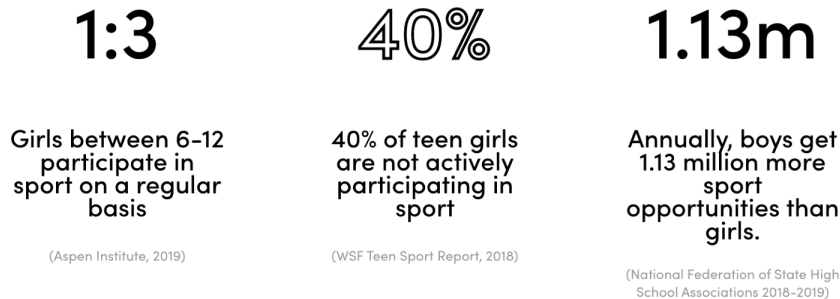


Figure 1. Image displays data found by the Women’s Sports Foundation on opportunities in sport for women (King 2022). Details found in results.

Approach

We first started with developing research questions/issues on gender disparity in athletics which consist of these:

1. How do gender biases impact the treatment of injuries in female athletes compared to male athletes, and what are the implications for their recovery and performance?
2. What are the most common injuries that female athletes experience compared to male athletes, and how do they vary by sport and age?
3. How do gender biases impact the prevention and management of injuries in female athletes, and what strategies can be implemented to address these biases?
4. How can sports organizations and governing bodies better address and eliminate gender bias in injury management, both at the individual and systemic level?
5. How does money play a role in gender bias in athletics?
6. What can be learned from successful examples of gender-inclusive injury management?
7. approaches, and how can these approaches be replicated in different sports and regions?

Our approach to testing the hypothesis of gender inequality in sports in terms of resource allocation was to research previous findings while conducting our own analyses to create a research paper. This paper is intended to bring more awareness and significance to the gap in male and female athletics. For our research we decided that interviewing coaches and PT trainers about their views and opinions regarding the gap between male and female athletics would be beneficial. We took data from other sources and information from the interviews to aid us in developing conclusions. We used research articles, peer reviewed literature, books, and data from other findings to then progress ours further with our own findings.

Our approach was like the Women’s Sports Foundation work in terms of media coverage. They found statistics on media coverage and airtime for men versus women in sports. Similarly, the Tucker Center found statistics on media coverage. However, our media statistics were extremely up to date being the first few weeks of April 2023. We looked at multiple sports Instagram accounts to see where the gender inequality lies within social media postings. We

gathered recent data on the frequency of male sports focused Instagram posts versus women's sports focused posts. This focused on the social media aspect of men's and women's sports, which differed from the research articles we used.

The Tucker Center published a book on female participation in sports which was eye opening but not something that we researched. The Tucker Center also did research on the wage gap and revenue gap. We researched this as well to show how money is unevenly distributed in the NCAA. Michael Sokolove provided us with specific work on injuries in males versus females. His book also includes facts on leadership roles such as coaches and administration and gender representation. Similarly, we also researched the injury and leadership gap. We wanted to find more on gender bias in terms of injury and find the portions of male to female leadership roles.

Methods

Our process for gathering information and data for our study was possible by developing a study objective, doing online research using scholarly articles, conducting two interviews with specialists in physical therapy and athlete development, and performing our own data collection of sports social media posts by gender. We developed an objective by first choosing an issue to focus on studying. The topics we chose between were gender inequality, social inequality, and race inequality in sports. Ultimately, we chose gender inequality. After finding our topic of focus, we made multiple drafts of an objective statement which summarized our goal for the report. We eventually designed our final objective statement through multiple phases of trial and error.

Our three primary methods of collecting information and data were online research, conducting interviews, and performing our own data collection. Before starting our research, we developed a list of fifteen research questions. These questions were designed to address a range of issues, including the existence of a gender disparity in athletics and the factors contributing to this inequality. We then narrowed these questions down to be specific to what we wanted to research as stated in our approach above. Using Google Scholar, we found multiple articles focusing on the effects of anatomy on injury rates, probability of injury differences between men and women, and any other articles that gave information on the existing gender inequality in athletics. We also collected information using different books provided to us, such as *Warrior Girls*.

The information found allowed us to answer research questions and organize our thoughts on the topic. The research we conducted overlapped with the interviews we conducted. We interviewed physical therapists Alex Buttars and Jason Lacanlale. These trainers specialize in injury recovery and prevention and athlete performance development. The interviews were recorded, transcribed, and annotated. This enabled us to expand our research to areas we saw as less important than what we originally researched. The interviews also helped us develop a method of collecting our own data.

We observed the number of Instagram posts related to male and female athletes over a period of two weeks (from April 6th to April 20th). We looked at the Instagram accounts of ESPN, SportsCenter, and Bleacher Report and took a total sample size of 540 Instagram posts (180 posts per account). We chose these accounts because they are a few of the most followed sports related accounts. They do not specialize in one specific sport but focus on sports overall, which is why we chose them. The number of posts about male and female athletes were counted and the data was put into pie charts using Microsoft Excel. These charts, along with the graphs, data, and images found in our research, were used for the Results section of our study. When

looking through the posts there was some specific criteria, we used to identify whether it belonged in the male or female section. For example, if the interviewer was a female but she was interviewing male athletes, it was counted as a male post. It was based on who the athlete being highlighted in the post was gender wise.

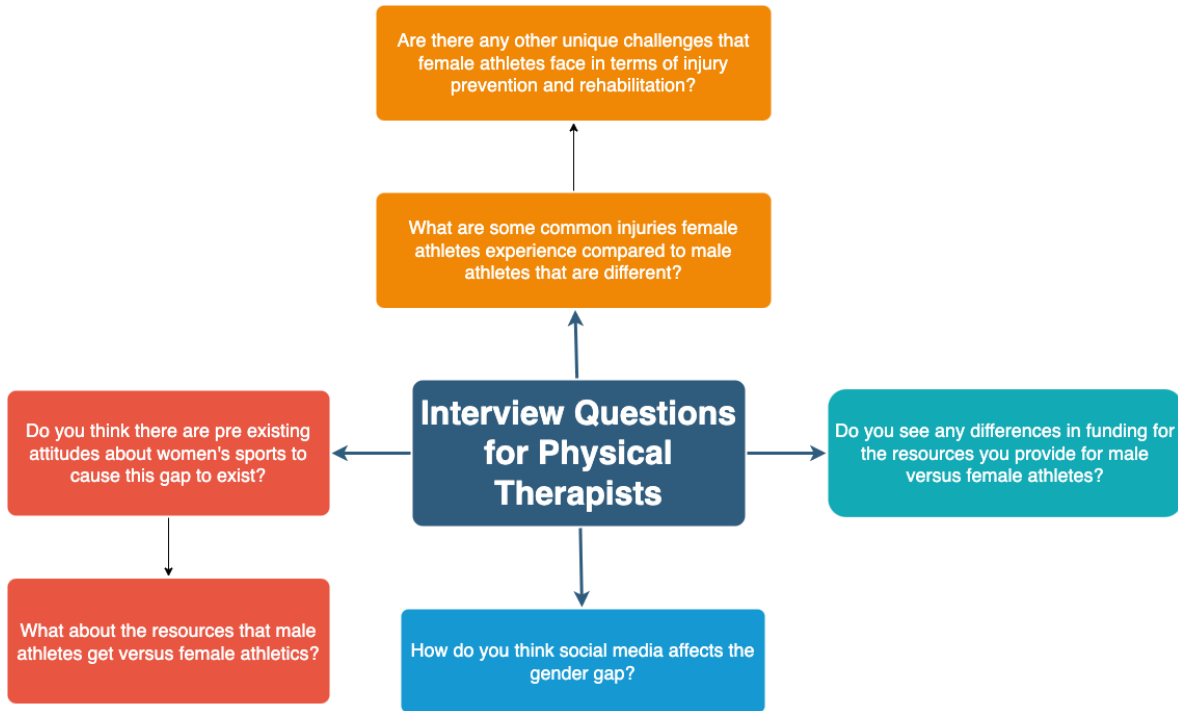


Figure 2.0 Interview questions designed to get insight from physical therapist trainers.

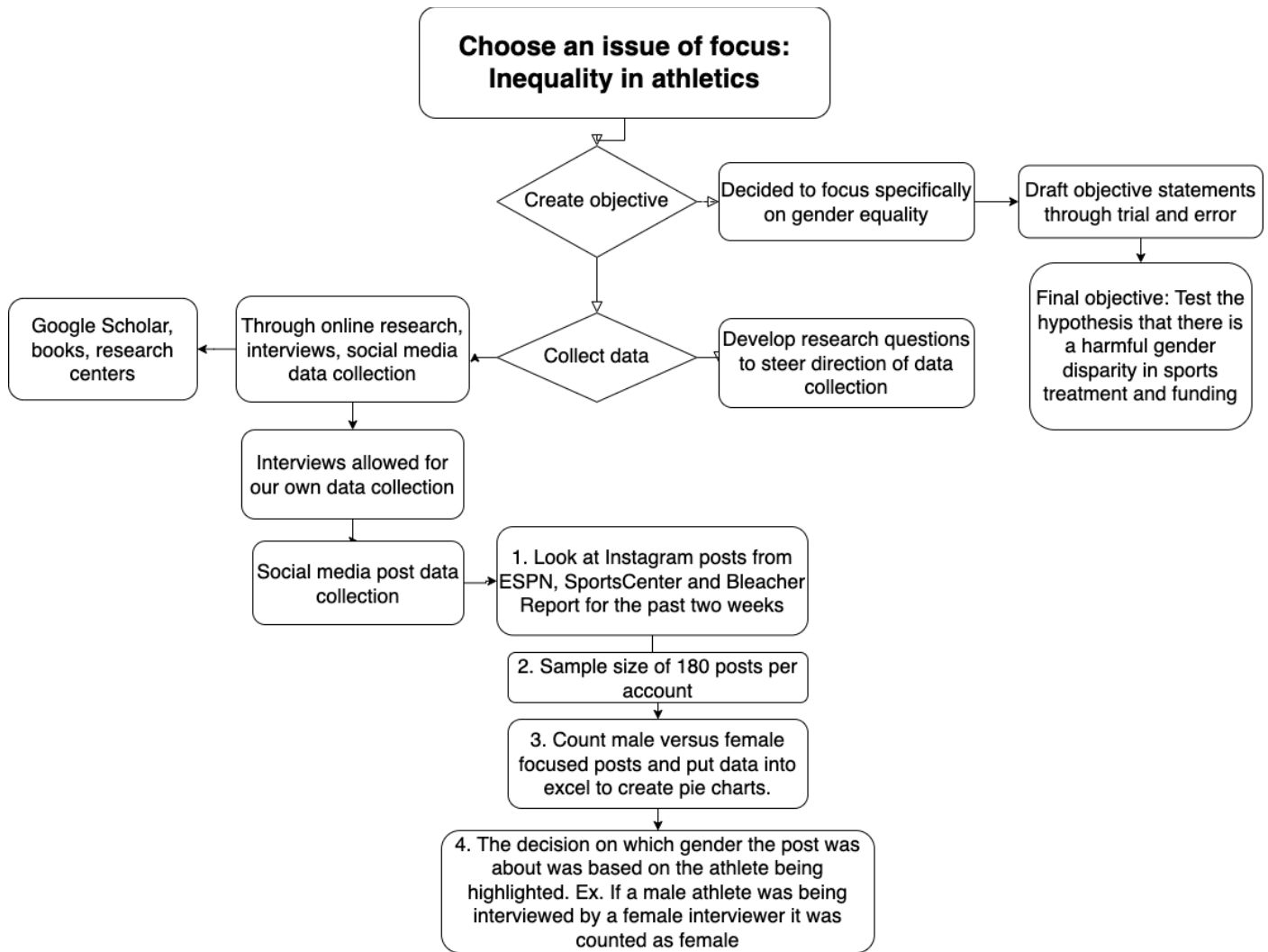


Figure 2.1 Flow chart displays the methods of overall project decision making and how the results were generated.

Results

The following section presents the findings of the study through various visual aids and textual information. Pie charts depict the data gathered on Instagram posts that showcase gender representation disparities. Additionally, images and graphs illustrate the unequal allocation of resources in men's and women's sports, as well as the discrepancies in ACL injury and recovery rates. Finally, the textual sections of this report provide additional information and data that are not included in visual aids, supporting the notion of harmful gender disparity in sports treatment and funding.

Our Research

1:3

Girls between 6-12 participate in sport on a regular basis

(Aspen Institute, 2019)

40%

40% of teen girls are not actively participating in sport

(WSF Teen Sport Report, 2018)

1.13m

Annually, boys get 1.13 million more sport opportunities than girls.

(National Federation of State High School Associations 2018-2019)

Figure 1. Image displays data found on the “Research” tab of the WSF website

2023 ESPN Instagram Posts across 14 days

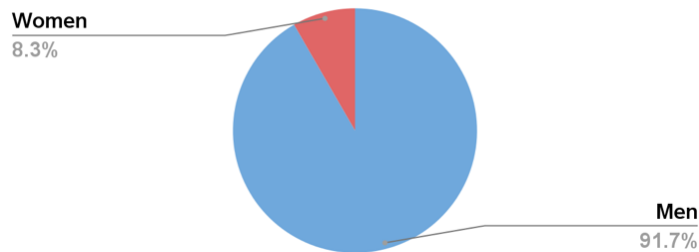


Figure 3. Pie chart of the ESPN Instagram account posts about men's sports (165) compared to women's sports (15 posts) over a 14-day period (April 6th to April 20th).

2023 Bleacher Report Instagram Posts across 7 days

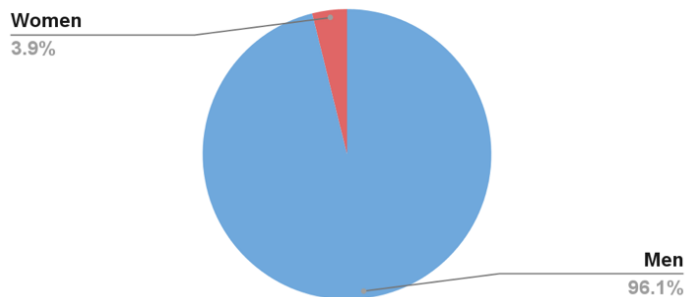


Figure 4. Pie chart of the Bleacher Report Instagram account posts about men’s sports (173) compared to women’s sports (7 posts) over a 7-day period (April 13th - April 20th).

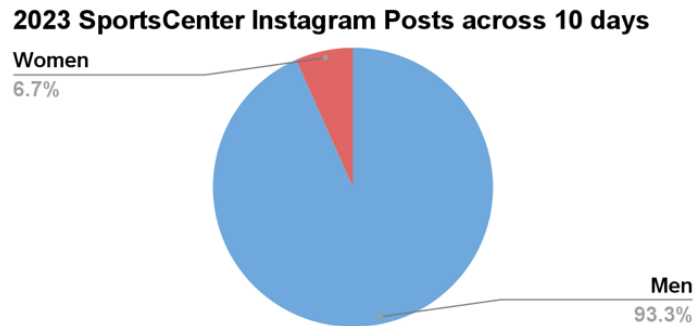


Figure 5. Pie chart of the SportsCenter Instagram account posts about men’s sports (168) compared to women’s sports (12 posts) over a 10-day period (April 10th to April 20th).

Section 1. Numbers gathered from social media data collection.

1. Sample size (total posts): 540 posts — 180 posts per Instagram account
2. The average percentage of men's sports posts: 93.7%
3. Average percentage of women's sports posts: 6.3%.

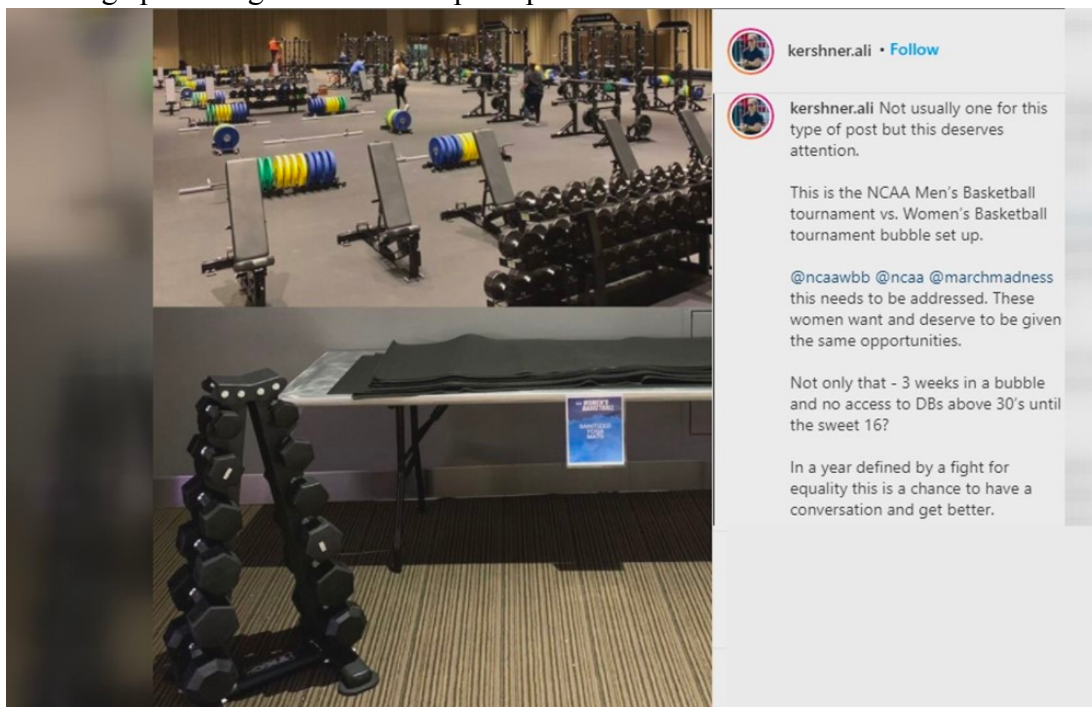


Figure 6. Image displays difference in weight rooms for men’s basketball (top) compared to women’s basketball (bottom) for the 2021 March Madness tournament, along with the social media comments from the post showing the images (Yücel 2021).



Figure 7. Image shows the improved weight room for women’s basketball 2021 March Madness tournament. The NCAA improved the weight room in response to the social media backlash they received (Deliso 2021).



Figure 8. Image shows difference in food provided. Women’s basketball (left) received pre-packaged meals compared to men’s basketball (right) receiving buffet-style food. It was never publicly announced if the NCAA resolved this issue (Yücel 2021).

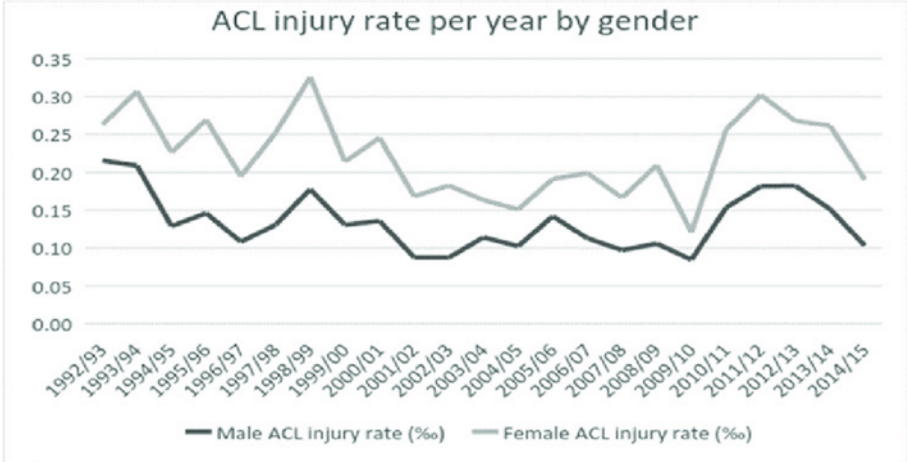


Figure 9. Line graph showing the ACL injury rate per year by gender, starting from 1992/1993 to 2014/2015 (Barahona 2018).

Section 2. The Silver Streak article: Women Treated Differently in Sports

1. “Also, only 40% of sports participants are women and only 4% of women’s sports have sports media coverage...” (Alashmawi 2020).

Section 3. Article by website “StretchCoach”: Strength Training and Strength Exercises for Injury Prevention — Discover how strength training prevents sports injury.

1. “Strength training is a major component of any injury prevention or injury management program...” (Walker 2020).
 - 1.1. “Strength training improves the strength of the muscles, tendons, and even the ligaments and bones. Stronger muscles and tendons help hold the body in proper alignment and protect the bones and joints when moving or under impact...” (Walker 2020).
 - 1.2. “When an area of the body is used less during an activity it may become weak compared to other areas... Strength training, using a balanced program, will eliminate these weak areas and balance the body for the activities it is called to do...” (Walker 2020).

Section 4. Article by website “SkyTherapy”: The Importance of Nutrition for Injury Prevention and Recovery

1. “Food is like the fuel that helps us to function. Which fuel you choose has a significant effect on how your body performs. When you’re taking part in sports and training, you’re asking your body to do a lot. Therefore, you need to make sure that you are giving it the correct fuel to allow you to perform optimally and to prevent injuries...” (Ubhi 2021).
 - 1.1. “Giving your body the right amount of vitamins and minerals helps to keep your bones strong and at the right density, which reduces the risk of fractures and breaks. In the same way, the right diet helps with strengthening tendons and ligaments... Without the right nutrition, they can become weakened which can make them more susceptible to strains and other soft tissue injuries. Just as with tendons and ligaments, it’s vital to keep your muscles strong... Providing them with the right nutrition helps prevent muscle strain and injury...” (Ubhi 2021).
 - 1.2. “When injuries do occur, nutrition can play a vital role in helping you recover quicker and more effectively... Nutrition is among the key recovery strategies in professional sports...” (Ubhi 2021).

Section 5. British Journal of Sports Medicine (BJSM) study on ACL injury differences between male and female athletes

1. “After ACL injury/reconstruction, very low-certainty evidence suggests females/women/girls had inferior self-reported activity (return to sport) compared with males/men/boys on most meta-analyses...” (Bruder, Culvenor, et. al 2021).
2. “Females/women/girls had 23%-25% reduced odds of returning to sport within 1-year post-ACL injury/reconstruction...” (Bruder, Culvenor, et. al 2021).
3. “Age-stratified analysis (< 19 years) suggests female athletes/girls had 32% reduced odds of returning to sport compared with male athletes/boys...” (Bruder, Culvenor, et. al 2021).

Section 6. The Institute for Diversity and Ethics in Sport — report from 2019

1. Scope for the information: amateur, collegiate, and professional sports and media
2. Men's basketball programs generated an average of \$27.7 million in revenue (Davison, Zimmerman 2019).
3. Women's basketball programs generated an average of \$1.9 million in revenue (Davison, Zimmerman 2019).
 - 3.1. Women's basketball programs received \$5.9 million less in operating expenses than men's basketball programs (Davison, Zimmerman 2019).

Section 7. Title IX Law

1. Section 1681(a): Prohibition against discrimination; exceptions
 - 1.1. “No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance, except that:” (U.S DOJ. 1972).
2. Section 1681(b): Preferential or disparate treatment because of imbalance in participation or receipt of Federal benefits; statistical evidence of imbalance
 - 2.1. “Nothing contained in subsection (a) of this section shall be interpreted to require any educational institution to grant preferential or disparate treatment to the members of one sex on account of an imbalance which may exist with respect to the total number or percentage of persons of that sex participating in or receiving the benefits of any federally supported program or activity, in comparison with the total number or percentage of persons of that sex in any community, State, section, or other area: *Provided*, That this subsection shall not be construed to prevent the consideration in any hearing or proceeding under this chapter of statistical evidence tending to show that such an imbalance exists with respect to the participation in, or receipt of the benefits of, any such program or activity by the members of one sex...” (U.S DOJ. 1972).

Section 8. WSN article: NCAA Men's vs Women's Basketball: Revenue, Scholarship, Viewership & Attendance

1. Revenue and Viewership differences: (Jope 2023)
 - 1.1. Men's basketball revenue: \$933 million — Attendance: 4659 per game/session
 - 1.2. Women's basketball revenue: \$266,183 — Attendance: 1625 per game/session
2. “The Men's Tournament accounts for nearly 90% of revenue for the NCAA. As a team progresses through the tournament, a portion is paid that accumulates as they succeed. In 2017, that amount was \$266,183, resulting in a near \$1.6 million pay-out for the team that makes the Finals...” (Jope 2023).
3. “The women's teams receive no pay-out for progressing through the tournament. While women represent 43.4% of all college athletes, they receive less than 20-30% less than men in terms of travel allocation, recruiting resources, equipment, and overall operating expenses...” (Jope 2023).

Section 9. College Basketball Bribery Scandal of 2017

1. Several men's basketball coaches from several Division I universities were accused of accepting bribes to steer players to certain schools.

2. Involved schools and their coaches:
 - 2.1. “Lamont Evans, Oklahoma State: accepted \$22,000 in bribes to steer current athletes to the University of South Carolina and did the same while at OSU with Christian Dawkins (sports agent) and Munish Sood (financial adviser) ...” (Lyles 2017).
 - 2.2. “Emanuel Richardson, Arizona: accepted bribes from UC-1 (an undercover agent), Dawkins, and Sood. Some of the money was retained by Richardson, and some was given to a recruit named in documents as “Player-5” with the intention for Richardson to steer Arizona players to retain Dawkins and Sood as a manager and financial advisor, respectively...” (Lyles 2017).
 - 2.3. “Anthony Bland, USC: took \$13,000 in bribes from Dawkins, Sood, and UC-1 to steer USC players to retain Dawkins and Sood as their manager and financial advisor, respectively. Also directed Dawkins and Sood to pay \$9,000 to the families of two student athletes at the university...” (Lyles 2017).
 - 2.4. “Chuck Person, Auburn: Rashan Michel, a founder of a clothing company based in Atlanta and former NBA and college referee introduced Person to “CW-1” (a cooperating witness), who had a financial advisory/business management service. Then \$91,000 in bribes were allegedly given for Person to influence Auburn players to use CW-1’s service along with Michel’s suit business...” (Lyles 2017).

Section 10. Women’s Sports Foundation: salaries of men’s and women’s head coaches

1. NCAA Division I men's head coaches earned an average salary of \$1.2 million (King 2022).
2. NCAA Division I women's head coaches earned an average salary of \$333,000 (King 2022).

Section 11. 2016 University of Iowa

1. In 2016, the University of Iowa was accused of failing to provide sufficient opportunities for women's sports (Miller 2021).
2. This lawsuit was filed by female student athletes claiming the women’s sports opportunities were not up to par with what was required by Title IX. Specifically, they claimed that the University of Iowa cut women’s sports programs and scholarships but was expanding men’s programs (Miller 2021).
 - 2.1. One example of this was that the women’s rowing team claimed that they were forced to practice on an indoor rowing machine, yet the men’s team had access to a nearby river (Miller 2021).
 - 2.2. Another aspect of the lawsuit was that the university was not giving out equal scholars to male and female athletes. Female student-athletes were at a disadvantage for scholarships and financial aid which should be prevented by the Title IX provisions (Miller 2021).
3. Through the article by Mark Emmert, we learn Iowa settles to pay \$6.5 million in two high-profile discrimination lawsuits in 2017. The University agreed to add women's sports programs, increase scholarships available, and improve resources available to women’s sports teams. They also agreed to create a Title IX coordinator position to ensure compliance with law (Emmert 2017).

4. This should have never even happened because of Title IX Section 1682. This section authorizes the Department of Education to enforce Title IX through investigations, administrative hearings, and other means which clearly the University of Iowa did not comply with (Emmert 2017).

Section 12. The New York Times article: U.S. Women's Soccer Team Sues U.S. Soccer for Gender Discrimination

1. "Twenty-eight members of the world champion United States women's soccer team significantly escalated their long-running fight with the country's soccer federation overpay equity and working conditions, filing a gender discrimination lawsuit..." (Das 2019).
2. The legal complaint against US Soccer shows the exact jurisdiction and nature of the action:
 - 2.1. "The USSF has claimed that its mission is to "promote and govern soccer in the United States in order to make it the preeminent sport recognized for excellence in participation, spectator appeal, international competitions and gender equality." (Das 2019).

Discussion

1. **There is a discrimination of opportunity between genders in athletics, which is demonstrated by the unequal representation of men's and women's sports in social media.**

Gender equality in sports is a pressing issue that is being amplified in significance by social media. Social media platforms are vital for information gathering, with millions of sports-related accounts on some of the largest platforms, such as Twitter and Instagram. However, there is a significant disparity in the representation of men's and women's sports on these platforms. The analysis of the data presented in Figures 3, 4, and 5, and Section 1, indicates that women's sports are significantly underrepresented on social media. This data is also supported by the data shown in Section 2, showing that women's sports have very low social media representation. This is reflective of the gender discrimination that exists in athletics, which portrays women's athletics as less important than men. To address this issue, social media platforms must provide equal representation of women's sports. Although the underrepresentation of women's sports is a concern, female athletes can still benefit from the platform. The interview with physical therapists Alex Buttars and Jason Lacanlale reveals that female athletes often use social media to educate themselves on performance training and injury prevention. They use social media to learn from other women in the industry and gain greater insight on performance training and injury prevention. However, according to Buttars and Lacanlale, the insufficient representation of women's sports on social media means that female athletes cannot receive adequate education on injury prevention and performance training. Ultimately, social media plays a crucial role in shaping our understanding of gender equality in sports. The unequal representation of men's and women's sports on these platforms contributes to gender inequality and must be addressed.

2. **As a result of the unequal distribution of resources in athletics, there exists a clear pattern of inequality which puts female athletes at a higher risk of injury when compared to their male counterparts.**

When observing if a gender disparity exists in athletics, a significant topic is the unequal allocation of resources. In the 2021 March Madness tournament, there was a clear quality difference with the weight rooms and provided food between the men's and women's basketball players, as shown in Figures 6 and 8. This disparity in resources is harmful for women's basketball players. With the information provided in Sections 3 and 4, all athletes need quality food for nutrition benefits and proper weight room equipment to take care of their bodies, allowing for injury prevention and prolonging performance. The lower quality of resources available to the women's athletes do not allow them to take care of their bodies to prevent injury. A correlation exists between injury prevention, maintaining quality nutrition, and participating in weight training, and it is necessary for women athletes to have the same quality of resources that male athletes do. This is because without equal resources being available for female athletes, they are more susceptible to injury. The equal allocation of resources is also because female athletes get injured at higher rates compared to male athletes. The data shown in Figure 9 highlights how male ACL injury rates are much lower than that of the women. In addition to this, Section 5 highlights how post-ACL injury, women have a much lower chance of returning to sports than men. This data demonstrated how female athletes are at a higher risk of injury compared to male athletes. By using this information, it highlights the significance of the gender disparity present during the 2021 March Madness tournament. As female athletes are more susceptible to injury, it is essential that they have the necessary food to properly nourish their bodies and the proper equipment to participate in quality weight training. The unequal distribution of resources may lead to higher rates of injury for female athletes as they do not have the same quality of resources to help them prevent injury and prolong performance compared to the male athletes. Despite the NCAA "fixing" the issue, shown in Figure 7, in the present day with women becoming more significant and powerful in society, this issue should not have happened to begin with. This raises the question if there are other instances where the NCAA is unfairly prioritizing the highest quality of resources to men's athletics instead of providing equal treatment to both men's and women's sports.

3. Financial resources in athletics can result in power imbalances.

Financial resources play a significant role in creating power imbalances within athletics, particularly when it comes to gender equality. The disparity in funding and resources between men's and women's basketball programs, as highlighted by the 2021 March Madness and The Institute for Diversity and Ethics in Sport, has been a major point of contention. It is important to address these disparities and work towards greater equity and fairness in athletics, as evidenced by organizations such as the Women's Sports Foundation and Title IX legislation. Women's basketball programs received millions less in operating expenses than men's basketball programs. This should not be the case due to the implication in 1972 of the Title IX Law. As stated in Section 7, bullet 2, Section 1681(b) requires educational institutions to provide equal opportunities for both sexes in all aspects of educational programs and activities, including athletics. This means that schools must provide equal athletic opportunities for male and female students. This supports the data in Section 6, showing how women's basketball programs received significantly less money than the men's programs.

College sports have developed a large business side with men's programs receiving far more funding and investments than women. The NCAA does not provide equal financial support to both sides of the playing field. They defend themselves with the excuse that the revenue generated by college sports is not equal between the two genders. NCAA and member schools

are required to comply with Title IX, which prohibits sex discrimination in any educational program or activity receiving federal funding. This means that schools must provide equal athletic opportunities to male and female students, including the number of sports offered, the quality of equipment and facilities, and the provision of scholarships. However, this is clearly not directly followed as seen by the marginally large differences in financial statistics.

The discrepancy in funding and resources between men's and women's basketball programs is a clear example of this issue, with men's programs generating significantly more revenue and receiving more operating expenses than women's programs. As seen in figures 6, 7, and 8 in Section 8, the resources are not evenly distributed. The women receive worse quality food and equipment than the men and receive significantly less funding as they progress through the March Madness tournament. The 2017 college basketball bribery scandal sheds light on the problematic distribution of financial resources in college athletics, as shown in Section 9. Furthermore, Section 10 shows how the Women's Sports Foundation highlights the stark contrast in NCAA men's basketball head coach salaries compared to those of women's basketball coaches. This vast pay disparity can make it challenging for female coaches to advance in their careers, which ultimately contributes to the lack of representation of women in coaching positions in sports. This gender imbalance in coaching can have a cascading effect, as having more women in coaching positions can serve as role models for young girls aspiring to pursue a career in sports. Thus, it is crucial to address the pay disparity and ensure that female coaches receive the same opportunities and pay as their male counterparts, leading to a more equitable and diverse landscape in the world of sports. None of this should be possible with the Title IX Law.

4. Current legislation is not imposed strongly enough by athletic institutions.

Discussion:

Inequality between genders in sports should have been prevented since the 1972 implication of the Title IX Law. Clearly this has not been the case. Between resource allocation, pay rates, financial support, and injury rates we see that many Title IX sections are not being followed. NCAA and its member schools are required to comply with Title IX. However, in testing our hypothesis there have been many instances where schools are accused of not following the provisions. Section 1681(b) requires educational institutions to provide equal opportunities for both sexes in all aspects of educational programs and activities, including athletics. This means that schools must provide equal athletic opportunities for male and female students. Section 11 shows how the University of Iowa was accused of failing to provide sufficient opportunities for women's sports and therefore disobeying this section. This lawsuit was filed by female student athletes claiming the women's sports opportunities were not up to par with what was required by Title IX. Another provision in Title IX section 1681(a), present in Section 7, bullet 1, states how schools must provide equal financial support to male and female programs. Section 12 provides information on how in 2019, Title IX section 1681(a) was used when the US Women's National Soccer Team filed a lawsuit against the US Soccer Federation (a member of the NCAA). This incident showed how the USSF was not providing equal pay and resources to the women's team. Title IX inherently prevents any of these lawsuits from happening. However, the law is not imposed strongly enough to prevent any of these incidents from happening.

Conclusions

1. **There is a discrimination of opportunity between genders in athletics, which is demonstrated by the unequal representation of men's and women's sports in social media.**
2. **As a result of the unequal distribution of resources in athletics, there exists a clear pattern of inequality which puts female athletes at a higher risk of injury when compared to their male counterparts.**
3. **Financial resources in athletics can result in power imbalances.**
4. **Current legislation is not imposed strongly enough by athletic institutions.**

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7. Appendices

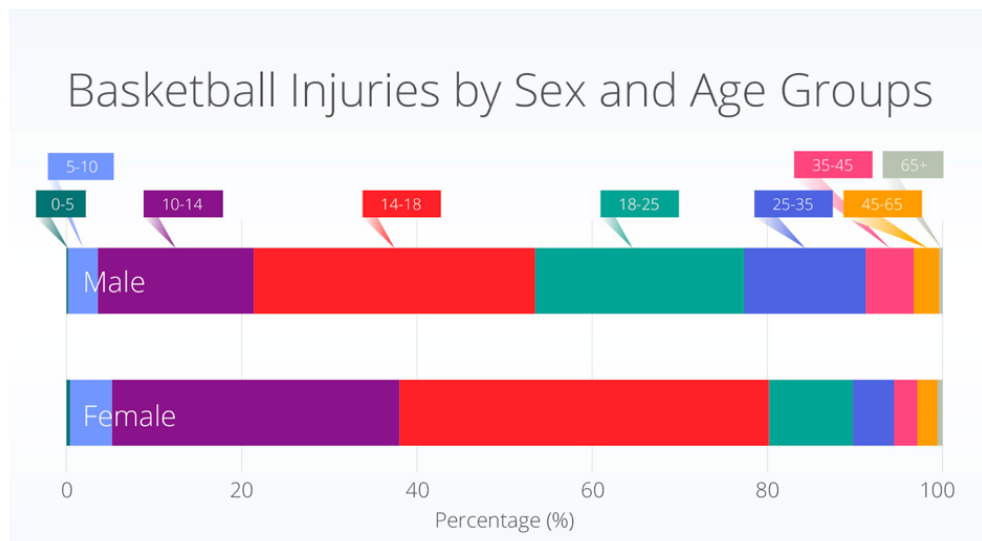


Figure 10. Bar graph shows the percentage of basketball injuries by sex and age groups (Truveta 2023).

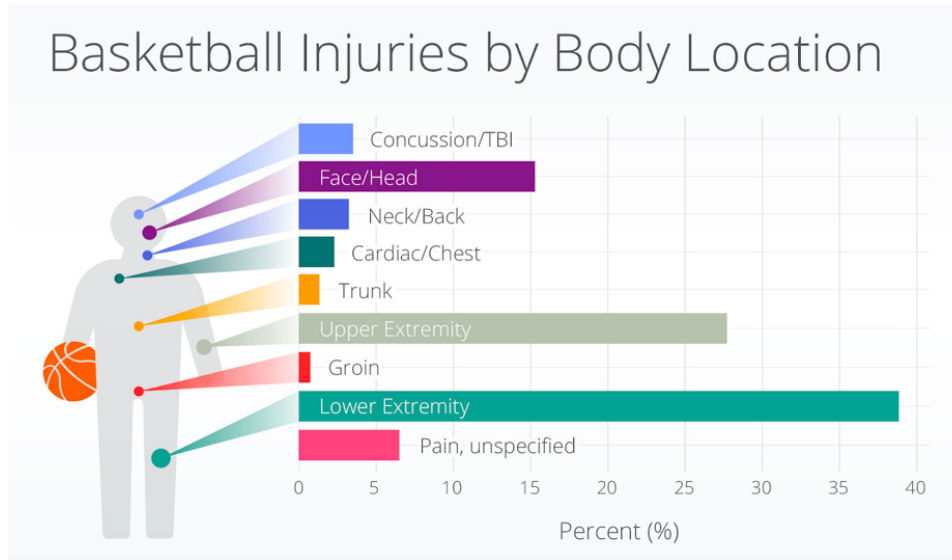


Figure 11. Bar graph shows the percentage of basketball injuries by body location (Truveta 2023).

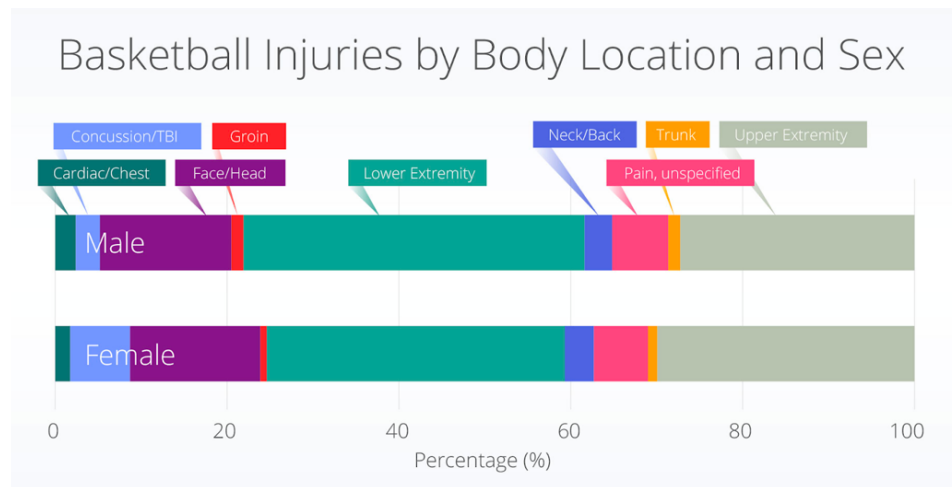


Figure 12. Bar graph shows the percentage of basketball injuries by body location and sex (Truveta 2023).

Section 13. University of Michigan article: Changing the Sports Medicine Game for Female Athletes

1. ““Female athletes face different medical conditions and are more susceptible to certain injuries than their male counterparts,” says Eileen Crawford, M.D., assistant professor of Orthopedic Surgery and Sports Medicine...” (Zalewski 2021).
2. “MedSport physical therapist Kristen Schuyten, PT, DPT, SCS, MS, CSCS, agrees (with statement above). “We need a more targeted approach for female athletes – and more

female providers involved in their care – to help offer the most effective, holistic care possible..." (Zalewski 2021).

WSF

WSF provides a wide range of services to create equality such as research and community outreach. WSF also provides grants and scholarships to support female athletes and coaches and conducts sports clinics for girls and women. This foundation has multiple key programs and initiatives. One specific program is called Sports 4 Life that helps girls in underserved communities to participate in sports with the goal being to increase the number of female athletes in sports. There is also the Athlete Leadership Connection which provides training and resources to female athletes to develop their leadership skills. This way they can become advocates for gender equity and be role models for future female athletes. A third program they have is the Travel & Training Fund. This program provides financial support to female athletes for higher levels to help reduce the financial barriers they experience. These are just a few examples of the many programs WSF offers and that we investigated to develop our fundamental work. We are astonished by the impact they have had on promoting gender equality in sports over several decades. They helped increase the numbers of female athletes and visibility of women's sports while working to reduce barriers that prevent women from participating in sports. Despite all their achievements we can clearly see there are still significant challenges to achieving full gender equity in sports. The WSF is aware of these as they have conducted research on the pay gap and found that females earn significantly less than males in terms of salaries and investments in sports programs. They have also openly spoken out about stereotypes and biases that female athletes still face. Overall WSF has done an amazing job to research the ongoing challenges and create programs to help achieve full gender equality but are aware that there is still work to be done.

Tucker Center for research on Girls & Women in Sport

This area of research about gender inequality in sports has been greatly investigated by the Tucker Center. The Tucker Center is another excellent organization that has been working to promote gender equality in sports. Located at the University of Minnesota, this research center is dedicated to advancing research to promote policy changes to create more gender equity in athletics. This center was founded after the WSF in 1993 by Dr. Mary Jo Kane who was a professor of sport sociology at the University of Minnesota. She recognized the need for greater advocacy around issues of gender and sports, so she established the Tucker Center to address this need. The center is named after Dorothy McNeill Tucker who was a standout athlete in the 1920's at the university of Minnesota and later became a coach and administrator as well as a leader in the movement to create gender equality in sports. The Tucker Center has become one of the leading centers for research on gender equality in sports and has helped contribute to important policy changes and advancements in the field.

The center has a range of topics they focus on including media representation, health and safety, and participation. A main goal of theirs is to challenge the ways sports have traditionally been organized and governed to create change. They want a more equitable and inclusive sporting culture which is why we decided to learn more about their initiatives and goals. Like the WSF they have created a Sports Equity Program that aims to create more opportunities for girls and women to participate in sports. They also have the Tucker Center advocacy Team that focuses on promoting policy changes that will in turn help create gender equity in athletics.

Along with their programs, they have also spent lots of time researching the barriers that they see prevent girls and women from participating in sports. When they identify these barriers, they advocate for change to get rid of them. One example is that the center's research has highlighted the importance of providing girls with positive role models and opportunities to participate in sports at an early age which has led to a call for greater investments in women's sports programs. The center has also advocated for changes in policies and regulations that are making it more difficult for women to succeed in sports such as rules that limit the number of female sports teams at the collegiate level.

Peer Review Literature

After looking into research foundations and reading Warrior Girls, we began investigating peer-reviewed literature on the matter. Our first finding was that female athletes really do experience several types of common sports injuries at a higher rate than their male counterparts. A study conducted by Lin et al. 2018 showed that bone-stress injuries, concussions, and ACL injuries occur at a higher incidence than compared to their male counterparts. Citing Laurel Wentz's 2011 paper on female athletes and stress fractures (Wentz 2011), it is shown that a 14-year study on a Japanese Track & Field Team surveying 256 males and 107 females found that females are injured nearly 5x more often, with men having bone-stress injuries at a rate of 3.9%, versus females who got injured at an astounding rate of 18.7%. In the same paper, they cite a 2-year study of 914 Division I college athletes. Again, the females were injured at a much higher rate, with men being injured at a rate of 2.0% and females 6.9%. The reason behind this disparity is disputed, but many researchers believe a naturally lower BMI and BMD may contribute. Concussion rates in women were also found to be higher in women, based on Lin's report. [Our first finding was that most sports papers about injuries focus only on men] Another report (Paul 2022) was conducted to compare the number of published studies evaluating male versus female athletes in various sports and identify which co-ed sports currently underrepresented female athletes in the sports medicine literature. Out of the 669 studies that they reviewed, over 70.7% were male isolated, 20.5% included both genders, and only 8.8% of studies isolated female athletes. In the soccer world, the women's national team (USWNT) was so fed up with the U.S Soccer Federation (USSF) that they sued for "institutionalized gender discrimination."

Interview with Alex Buttars (PT, DPT) and Jason Lacanlale (PT, DPT)

Donovan: All right, so my first question is, in your experience, what are some common injuries that female athletes experience compared to male athletes that are different?

Alex: Not necessarily what's different. But I would say, from a research point of view, the last statistic I saw was that girls are six times more likely to tear their ACL compared to boys. What do you usually see?

Jason: Yeah, there's a higher likelihood for women, especially to get things like the unhappy triad ACL, MCL, meniscus, which goes into how their bodies are structured as well.

Alex: Yeah, we also see a lot of cap injuries, like dislocations. A lot of those injuries that we do see are because females, anatomically, have a couple of things going on. For example, with

women having more estrogen in their systems, they are more flexible compared to boys having more testosterone, making it easier for them to gain muscle. There are other things too, like women having wider hips, which changes their anatomy and positioning, making them more susceptible to blowing out. But, besides that, I feel like male, and females have pretty similar injuries. Yeah. I'd say the risk is higher with women.

Donovan: You said the risk is higher with women. So, on that note about higher risk, can you discuss any differences in the way that female athletes respond to treatment compared to how male athletes respond to treatment?

Jason: I think it really depends. I have some female athletes that kill it in the weight room and during PT treatment. I think a lot of it comes down to their personalities and mindset and how hard they're willing to work.

Alex: I think from our perspective because we treat every athlete the same, we treat athletes based on their impairments or deficits rather than being male or female. So, from our perspective, it's a little different. And how people respond, I would honestly say, is a lot more based on their personalities and mindset and how hard they're willing to work.

Jason: Especially with younger people, but what I've noticed a lot with female athletes that I've worked with is that a lot of it depends on their parents. The crazy thing is that a lot of parents nowadays still think that they don't want their daughter doing weight training because they're going to look bulky and like a guy. The fact that this concept is still around just blows my mind. It's like, so you're going to purposely subject your daughter to a higher risk of injury by not having them strengthen. So, instead of strengthening like an athlete, they're going to be weaker, and it's going to increase their risk of injury.

Alex: I feel like female athletes just get treated like girls, which is a huge issue.

Donovan: I've never thought about it like that before. Are there any other unique challenges that female athletes face in terms of injury prevention and rehabilitation?

Alex: I think what you're getting at is the lack of resources available for females. Injury prevention is often the focus for girls, whereas performance training is emphasized for males. It's unfortunate that girls are put in this bucket of just needing to prevent injury, rather than building strength.

Jason: There's a huge misconception that girls need to work more flexibly. However, too much range of motion without the ability to control input strength can contribute to a higher risk of injury. Both male and female athletes should be working on strength, regardless of gender.

Donovan: I've never thought about the difference between injury prevention and performance enhancement.

Alex: For boys, parents often put them through strength and conditioning. But for girls, they don't always have access to the same resources. Girls need to put on mass, just like boys, but they don't always have that same focus. It's harder for women to make it in this industry period.

Jason: I think one of the issues is that there aren't as many females as possible in the industry. It's a field dominated by males, which is a big issue.

Donovan: The clear inequality in sports is a very important topic. What are other differences and inequalities you've noticed in terms of the quality and amount of personnel available for female athletes?

Alex: I don't have as much experience with female athletes as Jason does, but I think the level of personnel available depends on what level of competition we're talking about. For example, in college, there are strength coaches and athletic trainers available.

Jason: Before you can get back but he's big these big girls they say they always talk about how they have the resources, but they don't have the same time because a lot of trainers and a lot of outside of their slot time slots like a lot of them pay more attention to the guys teams or less what they say that's what they feel. For example, like one athletic trainer to athletic trainers will be at a gap is like one we will be covering men's basketball and the other will be covering like men's baseball. And for the women's team that are trying to get like tape or Chinese some care before the game they still have been waiting to see. I don't know if that can be a case-by-case basis but just the individual, just the staff on board but I don't know about that either.

Alex: I feel like from a high school level like hearing about like, because I have kids, you know, they're dirty they go to jail and they're going to dump like I know how the boys have programs right now for like district the conditioning for like offseason and like summer preseason. The girls, they don't really have a lot of time, they don't even have scheduled out gym time to be in the gym. And then when they do, like a lot of my girls are like they only squat. We don't do any upper body exercises. I'm like, that's crazy. They talk to boys that go to the same school and they're doing a total body. So, I don't really, I don't know if girls are just kidding. At the same time, the available resources males are what they also know for sports like volleyball. Like I have girls that in the offseason, I think in summer, they get whatever leftover times there are because like, for example, for Dublin high, the boys have set schedules and they have priority for the gym. And the girls just get her girls volleyball, they just get whatever times are leftover. And sometimes they won't even get to practice that week because boys are a priority. Which is sad. So, I don't know if programs are just prioritizing the men.

Donovan: Like for our project, like one of our main points like that we were researching or kind of analyzing, like, this gap and the attitude towards women's sports in general. So would you say like, I mean, I mean, you've already been saying like you feel like that, like there's programs that just prioritize male athletes more than female athletics. And I mean, that was like the example of the gym time like, do you think there are like preexisting attitudes about women's sports to like, cause this gap to exist? Or maybe even further the gap between, like the resources that male athletes get versus female athletes?

Jason: I feel like yeah, one of the first things that comes to mind are sports that generate revenue for the schools. Yeah, college perspective. So historically, you think top revenue generating sports have been nice, because I feel like the school has definitely allocated more resources for those compared to other ones, but I can't really go into as much detail but that's just how I feel.

Alex: What would you say your experience is like, working with girls and club sports? Like, are they just participating? Club, like practice and games? And there's no

Jason: Oh, yeah. So, like, so like club for club soccer. And like some club volleyball, obviously adapted by the official coach, but that's all they're doing. They don't have that, I don't know, because the coach is not encouraging them to do additional strengthening on the side. Well, a lot of the people that are out here on Sports are not only playing the sport, but they're also not doing anything from injury prevention or a strength and conditioning side of things. So, in our club, it could be an educational issue as well. So, it's like, oh, you know, you're going to be training with our club team cloud times a week. Because we need you to learn XYZ with our team here but sometimes take a step back and say maybe practicing two or three times a week and working on strict conditions afterward.

Alex: I can really understand why for boys it's like an automatic given that they're supposed to be strength training all the time. But for girls it's like I don't really know why it's just the way it is

Donovan: Just like talking about how like these preexisting attitudes not even just like I think on just a grander like a bigger scale, like not even just like looking at male and female athletics just like, you know, male and females, like in general, like how those feeds into, I mean, everything else right. And then with athletics is just like such a prominent example because like you guys being part of like the physical therapy world and like seeing it from the athletics perspective and like noticing how, like different it is and just hearing all these different like, stories from not just like your guys' like treatment plans for athletes, but also like, for, like, what athletes have told you about, like the programs like they come from, right? It's just, it's like, honestly, crazy. Like I was doing, like doing all this research and like, you know, really like trying to, like get immersed in like the topic, it's like, it's insane. Like how different it is, while on the surface, like people who don't really like to pay attention to it just think like, oh, it's just like, yeah, they think it's like on the surface, it's just like what you see on the news, like the pay gaps, right? Like what, like the WNBA and NBA like, that's pretty much what people see on the surface. But it's so much deeper than that. It's like all these different resources. Like there's a reason why, like, like you said, like, they're like women. Yeah, physiologically, they're probably more susceptible to ACL injuries. But I could probably say like, I haven't read any research on this yet, but I feel like if I did, I could find evidence that males have recovered from ACL injuries much faster and probably at a higher rate, simply because these resources are more available to them. Because like, like you said, like the attitudes like they're prioritizing, like male athletes over female athletes like, well, I mean, what do you think about like, like that?

Alex: Going up what you said about like, physiologically, like, what's going on with that? Like, yeah, if you look at research articles, which are honestly, almost all written by men, as well, like, everything always just gets washed down to they're more like, from a research standpoint, all that they can come up with, is that a woman or like, have these, like anatomical differences, and like,

that's why they get hurt. But then it's like, see the differences of how they train? Like, obviously, that's a huge factor. The research doesn't cover that at all. Because it's not something they can measure. You know what I mean? Yeah. It's very case by case. It just gets washed out. So it's like, what about like, the five to 10 years of training they've been doing before they got hurt, you know, what I mean? Like, they're the result of like, you know, what led to it, I guess.

Donovan: Yeah, I mean, in addition to like, research, I mean, in addition to research, like social media is super, like prevalent today, you know, like, I feel like, I mean, I know me personally, I get like most of my information from social media when it comes to like, what's going on in the world? So how would you say like, social media has an effect on this gap, like, like, what effect is social media, like, in terms of like portrayal of male and female athletics, not just from like, a grand perspective, but also from like, like an injury perspective, like kind of what I'm saying, like, for example, it's like when you go on social media, and you look at brief Bleacher Report, you can see three different posts back to back to back on LeBron James is like, you know, his injury recovery time, like his expected return to play versus like, if you get like a WNBA athlete who gets hurt. Like, I couldn't tell you the last time I saw a Bleacher Report post about their recovery time and when they're coming back to play, so how do you think social media really affects this gap?

Alex: Well, I think that all comes down to pay, right? It's like I split the board and make a lot of money. So if you had a BA, and when you think about it, you could probably Google how much LeBron spends on his body, right? And the reason he's able to recover so fast, is because the multiple 1000s of dollars he spends on things like keeping his body rate, right, right. Like, these smaller programs are like organizations that are reeling in as much money they can. They can't even compare if we're just talking about the recovery time.

Jason: I see. Like the girls that I've worked with, I've seen social media be on both sides of the spectrum. So for example, like with a lot of posts out there, some of the girls going to come meet and like hey, look like I've actually learned a lot from other females in the industry and posting on social media, and they're using it, they're asking, they're smart, and they're picking up on good information. But they're using it to double check what is being taught to them like in person. Like, for example, I had a couple patients come up to me and be like, hey, how come like four months out from ACL surgery? At my mother's place, they're only having me do this. But all this other information out there, there's other people who got her four months out at the same time as me, but they're being pushed a lot more. In a mess. That brings up discussions like, hey, you know what, there's a lot of factors involved. Maybe you're right, maybe he can be pushed more. So, using social media as an educational aspect has been beneficial in that way. But then, on the other side of the spectrum, we have, there's a lot more male coverage.

Alex: For males, yeah. So I mean, social media is a whole topic in general, like as far as like, not even talking about like, male versus female, but just talking about physical therapy and training, right, because it's like social media, a lot of times, like, especially kids that I work with, like a high school level, like they're so interested in, like, exercises, that look cool, right? And it gets hard to filter through all the stuff that they see, I couldn't tell you how many times my kids told me they tried some crazy exercise and another hurt. There's a lot of bad information, social media as well. And then I must remind them that regular squats are still great for you. To be

doing like, you don't need to have like 10 bands and like all this crazy stuff all the time. Is that like social media? But yeah, I don't know why there's my coverage of bail, I think a lot of it probably just boils down to how much more money goes into it.

Donovan: I want to kind of focus on what you said about the topic of like money, like how much money is going into, like the sports? So first, can we talk about like, do you notice any differences and like the amount of money that's put into like, just your own, like physical therapy work for women versus male athletes? And, like, does that count? I don't know if I worded that right, but um, it's like, sorry, let me rephrase. So, like, in like your work or like physical therapy, do you see any differences in like funding for like, like the resource, like the sort resources you provide for male versus female athletes.

Alex: I feel like for us, we're kind of unique, especially if we're just talking about our purity because it's like, we both do physical therapy. And we both do performance training now for athlete development. So, if we're talking from like, physical therapy standpoint, I mean, it's equal, especially if we're talking about our youth, because all the youth are on their parent's insurance. And they see us through their insurance. So, it's a that's like, even playing field, it's kind of depends on what type of insurance your parent has not really, if you're like male or female,

Alex: As far as changing and funding is concerned, we charge everyone the same amount. I guess, for you onboarding, because for me, I have like, all boys, I'm finally only finally onboarding like girl athletes, but out of your memberships that you do have for puppetry, like how many of them. So, I think for us, it's, it's not really, it's easy. For us, it just depends on whether we're pretty good at educating people. And if we're able to have the conversations with the parents, and get the parents on board, but I wouldn't really say it's like male versus female. Yeah, I guess it's kind of unique for us.

Donovan: Yeah, just from the couple of times I've been there, I can tell the environment you guys have been comfortable. It seemed like everything you guys just talked about, I like to feel kind of like that culture and like that family environment there. Like everyone's welcome, like everything's equal. Like the sheer focus is just, you know, if you're hurt, like to help you get better if you want to, you know, develop to help you develop. It's like I feel like that's what is missing from like male and female athletics. That's why there's such a big gap. It's just Like just like, I feel like it's so focused on like, like you said, like the attitudes towards women's sports, like, parents like not wanting their daughters to look bulky, like, for lack of a better term, right? It's just like, it's not like the focus has shifted from just clearly what is like the main goal, the main goal is just to help you be the best athlete you can and to stay healthy.

Alex: For us, like when we market our athletes, and programs, like the herbage that I say and how I market it is the same to every single parent, like it doesn't matter if you're male or female. But that's just, uh,

Donovan: yeah, I've seen differences and like other things, like sports performance places. I mean, just like, you know, now being in college and just seeing, like, so many different, like, different types of treatment and go into, like, so many different like, trainers and physical

therapists and like, doing all these different, you know, methods of training, it's like, it's just, there's so many different like, views on it, and so many different perspectives. It's like, that's why, like, when I was like, trying to, like, get more familiar with this topic, it was really confusing, because there's so many different articles online that all have different, like opinions or different, like, points of like research just about, like female physiology, when it comes to injuries, like what you said, and they're like, a lot of them Yes, are written by male writers. So, it's like, how reliable is it? Like? Is it coming from someone who's been studying, like, female athletes their whole life? Or is it just coming from somebody who took information from something else?

Alex: Which is crazy, like you talking about? Like, like, seeing the differences on like, the levels of training and all this kind of stuff? Like, unfortunately, like, for us, it was therapy, like, physical therapy, in general can be awesome, or horrible, depending on where you go. And like, like, we were marketing. Joel has come to talk to some parents. I was asking all the players like, have you had physical therapy before? Like, yeah, they're all boys. They're like, Yeah, I was like, how was it like, to be honest, and everyone's like, it was boring. Like, I stopped going. So, it sucks. Like, even as a field of physical therapy. Like you need to do better staging to do better, a whole organization. So, I can't even imagine the differences between like, when you're comparing like physical therapy versus like trainers versus like athletic trainers versus like skills, coaches, there's just so much.

Jason: So many different levels of quality. Yeah, well, one thing that keeps popping up for my athletes is, again, they may start off by going somewhere else, and they're not pushed enough. And they say, I don't know if other places push me enough, just because I was the girl or I was placed in an all-girls class. But why there? Can I just train with the guys? But it's, there's so much it all comes down to like, who's putting on the training program? What's their education level? Are they comfortable?

Alex: That's true, because even for me with my athlete development programs, like, when I'm grouping people together, I'm grouping them by age, and I'm just going to have all my girls together, there shouldn't be any discrimination and strike as you're training.

Jason: You should be treated like an athlete, but from reports of other female athletes out there, they're not getting the same level of intensity as much. But I don't know. Maybe society, the coaches, maybe they're afraid of pushing girls too hard. Yeah. Maybe they don't know their limits.

Donovan: I think um, something that's been kind of coming up in my mind, I think I've heard it a couple of times is like, kind of educating people on like, just the overall topic, like how do you think that like, as a whole, like, from your, from where you are, like, what do you think you would be able to do to help educate people like not just on this gap, but just like to have a greater understanding on like, kind of why so like, let's focus more on athlete development, regardless of gender versus like, male and female athletics, if that makes sense. Like how would you go about educating people on that?

Jason: With a lot of the resources out there like you can just social media or even have a slideshow presented. Our training, Exercise Science majors, because like a lot, a lot of times people have general ed nutrition classes general and health. And there is usually a small portion on benefits of exercise. They'll talk about the risk of injury for what it is made of, but they'll only scratch the surface. I mean, you could start, you could start by implementing changes, physical education classes, IP cost to our clinic training, Exercise Science majors, because like a lot, a lot of times people have general nutrition classes general and health. And there is usually a small portion on benefits of exercise. They'll talk about the risk of injury for what interests me, but they'll only scratch the surface. I mean, he could start by implementing changes, physical education classes, IP because he's worked, he's terrible. Like, no, you can learn so much. I've seen great PE programs, even elementary school, high school junior high, as I've heard of terrible D programs, like you're not teaching these kids how to be independent, you're not teaching them how to reduce risky injury, how to eat right 100 Like, how to like exercise, you're just teaching them that exercise is a chore is a chore. You're teaching that you're giving them a negative outlook on exercise. And by the time that a lot of these kids get to high school, they're like, I don't like exercise. So, it can start there. gay kids start from the lowest levels, you can go all the way up to college professional level to something as simple as some slideshows, or research articles to be implemented in the school setting. I think that's a huge population.

Donovan: Yeah, I mean, I could just think about, like, just go thinking back to elementary school P and like, how much like damn, like, I have PE today, like this suck, right? Like, even from being an athlete, like, like, I mean, I'm playing. I still like playing basketball in college. And I used to think that about PE, all the way up until high school. And that was like finally when I was able to get on a POS like, oh, thank God, like, I don't think I'll go through all that, again, like I can only imagine, for people who aren't athletes. And it's like, when they get to, like my, like, where I am right now. It's like, damn, they just wake up every day. And like, they just don't want to exercise. And it's not even from a fact of, you know, you know, want to look good and feel good. It's just like, actual, like health benefits, like more susceptible to injury, more susceptible to, like heart disease and other diseases that may come from not exercising, it's just, I think, that the topic of education is very important. Just not enough people are educated on not just in, like athlete development in general. But just like this gap in general, like, like I said, like, I wasn't really educated on it until I took it up as a project. And I did a lot of research, and I saw how it wasn't just differences in pay. It was much more than that. It was much more serious than that. And it's like a very significant issue. And I got, like I said, the topic of education, I think is very, very important. Yeah. Yeah. Um, so, one of my last questions, I know, we kind of talked about, like, personnel and resources, kind of like, how the quality and like the amount of it available, but in terms of like quality of equipment and amount of equipment available, like What differences do you notice? Like, I know, there's, like, you know, the big example with the NCAA weight rooms back in the bubble during the COVID pandemic. But even right now, and if you can remember before COVID happened, like what differences in quality and amount of equipment? Have you noticed the difference between male and female athletics?

Jason: It's kind of tough to say because we operate in our own little box.

Alex: I don't feel like a lot of the time, it's like, male and female, like, share this. Yeah, it's the same facility. It's like a barbell and barbell. You don't have male barbells versus female barbells.

I wouldn't say less than, like, the bubble example is probably because of the resources that the association is willing to put like money towards it. As far as like in a college or high school setting. I feel like male, and females are equal because they share the same facility ability. That gap, and the BS availability and not getting priority in time and being like oh, if they don't get strength training this week, like that's okay.

Jason: Every school will have their gym but maybe we're trying to help you see these teams aren't getting access to the gym as frequently as investing in the main thing that we see with vocally.

Donovan: Yeah, that is, I think that is an interesting way of putting it because when I was thinking about this question, I was, like you said I was just thinking about the NCAA weight rooms, but That's probably not just a, that's probably not a, that's more of an organizational issue. But in terms of availability, I could see how that is like a clear issue. It's like I'm looking at, like, just like our athletics teams here. And I like the varsity weight room schedule, like the teams in season. It's like, you have the football team who probably gets the most time. I mean, yeah, they have the biggest team, but it's like, you know, a lot of these other like, like female athletics teams, like they got to fit in, going in, like the open weight room hours, or they got to lift in the rec center. And that's also like, there's so many people there, right? There's like, only so much equipment for only so many people.

Jason: Right? And it's just all male teams have priorities, like throughout the year?

Donovan: Yeah. It's like, I mean, I feel like our school does a pretty good job in terms of what teams are in season, but I feel like even with that, I could see how, you know, the males' teams probably get more gym time, in terms of like the women's teams. I mean, I like my questions. I mean, you guys pretty much got everything, are there any Final thoughts, or final opinions, you guys would like to share? Just anything you think would be important for me to know. And it would be good to talk about.

Jason: Like, recently, there's been a definite improvement in the whole moment, especially for female athletes. Like, one that comes to mind is like Nike's ad, train like a girl, for example. And like, they're, they're, they're using it to empower a female athlete to say, hey, look like, doesn't matter if you're male or female, like you're an athlete, you need strength, you can do all of this, too. So, it's been cooled to see like, not even just WNBA, but also women's soccer, like fighting for equal pay. I think it is a step in the right direction. But a lot of it I still think a lot of people will continue to come down to education.

Alex: I would like to share why we started the athlete development program. To be honest, most of the credit goes to working with Connor for the past year. It has opened my eyes to the fact that athletes don't always receive the care they deserve. Typically, they only seek help when they are injured and cannot play. Prior to physical therapy, they often try quick fixes like cryotherapy, Norma Tec, massage, or chiropractic care. But even these options don't address the bigger picture. Athletic trainers are often too busy to provide personalized care, so athletes are left to search for solutions on their own. This is where the athlete development program comes in. Our goal is to be the one-stop-shop for athletes, providing them with everything they need to succeed.

We offer recovery services, rehabilitation programs, strength and conditioning training, and performance coaching. We want to break down barriers and create a gender-neutral environment where every athlete is treated the same, regardless of their sport or gender. We focus on identifying and addressing deficits and limitations in mobility, strength, and movement patterns. Our approach is different from what's currently available in sports therapy. Rather than separate avenues of care, we bring together physical therapists, skills trainers, strength and conditioning coaches, and sports medicine doctors to collaborate and provide the best care possible. We strive to improve communication among healthcare providers to deliver optimal results for athletes. Overall, our mission is to be the best and to provide what the sports industry truly needs.

Week 1	Alli	Jack	Donovan	Week 2	Alli	Jack	Donovan	Week 3	Alli	Jack	Donovan
Monday-3/13	8	8	7	Monday-3/20	10	4	5	Monday-3/27	8	8	8
Tuesday-3/14	9	7	8	Tuesday-3/21	10	4	6	Tuesday-3/28	2	10	10
Wednesday-3/15	4	7	7	Wednesday-3/22	4	5	5	Wednesday-3/29	8	10	8
Thursday-3/16	7	8	8	Thursday-3/23	6	10	8	Thursday-3/30	8	10	10
Friday-3/17	7	9	8	Friday-3/24	6	10	8	Friday-3/31	8	5	6
Saturday-3/18	9	1	2	Saturday-3/25	2	10	6	Saturday-4/1	8	5	0
Sunday-3/19	4	8	8	Sunday-3/26	10	5	10	Sunday-4/2	6	0	6
Total	48	48	48	Total	48	48	48	Total	48	48	48
Week 4	Alli	Jack	Donovan	Week 5	Alli	Jack	Donovan	Week 6	Alli	Jack	Donovan
Monday-4/3	10	7	5	Monday-4/10	6	6	6	Monday-4/17	6	6	10
Tuesday-4/4	4	8	8	Tuesday-4/11	2	8	10	Tuesday-4/18	10	8	8
Wednesday-4/5	10	9	10	Wednesday-4/12	8	8	10	Wednesday-4/19	10	8	8
Thursday-4/6	10	9	5	Thursday-4/13	8	8	4	Thursday-4/20	10	6	8
Friday-4/7	8	7	11	Friday-4/14	8	0	4	Friday-4/21	8	10	8
Saturday-4/8	6	8	9	Saturday-4/15	7	1	4	Saturday-4/22	0	0	6
Sunday-4/9	0	0	0	Sunday-4/16	9	5	10	Sunday-4/23	4	10	0
Total	48	48	48	Total	48	36	48	Total	48	48	48
Week 7	Alli	Jack	Donovan	Week 8	Alli	Jack	Donovan				
Monday-4/24	8	8	8	Monday-5/1	10	10	10				
Tuesday-4/25	8	8	8	Tuesday-5/2	11	11	11				
Wednesday-4/26	8	8	8	Wednesday-5/3	11	11	11				
Thursday-4/27	8	8	8	Thursday-5/4	11	11	11				
Friday-4/28	8	8	8	Friday-5/5	1.5	1.5	1.5				
Saturday-4/29	8	8	8	Saturday-5/6	Done						
Sunday-4/30	8	8	8	Sunday-5/7							
Total	56	56	56	Total	44.5	44.5	44.5				

Table 1. Table shows work hours for the 8-week project period for each project member.