Performance Trends Before and After Injury: The Case of Paige Bueckers at UConn

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Introduction

The increasing prominence of women's sports, particularly women's basketball, represents a significant shift in public interest and media attention. In 2024, the NCAA Women's Basketball Championship reached a historic milestone, drawing an average of 18.7 million viewers for the title game between the University of South Carolina and the University of Iowa, with peak viewership reaching 24 million. In comparison, the men's championship game averaged 14.8 million viewers, marking the first instance in which the women's final outperformed the men's in terms of audience size. Furthermore, the Final Four matchup between Iowa and the University of Connecticut averaged 14.2 million viewers, with a peak of 17 million, making it the most-watched women's basketball game on record at the time (The Associated Press, 2024). Notably, this peak viewership surpassed that of the 2022 NBA Finals, highlighting the growing cultural and commercial relevance of women's basketball.

The University of Connecticut is widely recognized for the sustained excellence of its women's basketball program, often referred to as a dynasty within collegiate athletics (Wittry, 2025). In the 2024 NCAA Final Four, UConn experienced a narrow defeat to the University of Iowa, losing 71–69. The loss was particularly upsetting given the team's ongoing challenges with player injuries and the heightened expectations surrounding the season. Central to these expectations was the return of star guard Paige Bueckers, who had previously suffered a torn anterior cruciate ligament. Despite the setback, UConn rebounded in the following season and won the 2025 national championship. This progression raises important questions regarding the impact of Bueckers' injury on her athletic performance across her collegiate career. Specifically, to what extent did her injuries affect her level of play, and was she able to fully return to pre-injury performance standards?

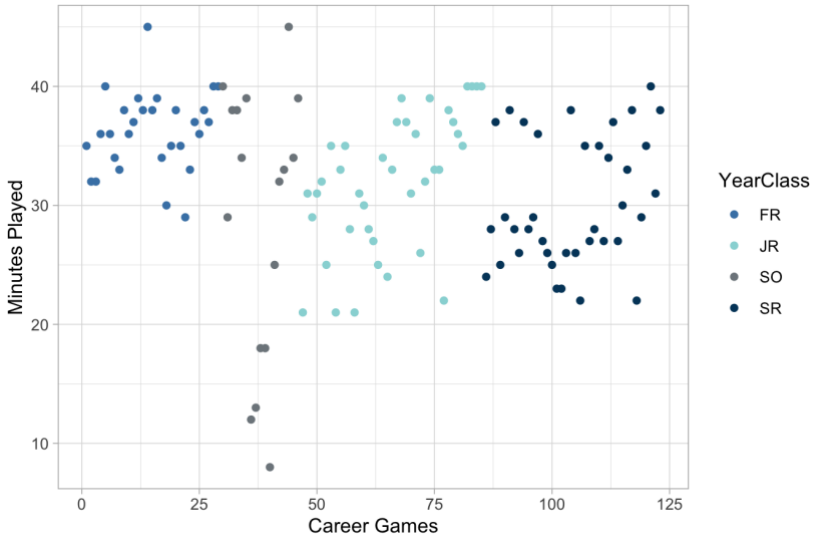
This paper seeks to explore the extent to which Paige Bueckers' basketball performance at UConn was influenced by injury. Several key

questions will guide this analysis. First, how did her performance respond to minor injuries from which she returned within the same season? How did her major injury, a torn anterior cruciate ligament, affect her level of play before and after recovery? Additionally, which statistical performance indicators showed the most significant variation between pre and post-injury seasons? Was offensive production or defensive effectiveness more affected than others? Did these areas show improvement, stability, or decline following her return to competition? By examining these statistics, the paper aims to provide a comprehensive understanding of how injuries impacted Bueckers' collegiate career.

Bueckers suffered from a few different injuries over the course of her career at UConn. Her 2021-22 season was cut short due to a knee injury, though she did return for the last few games. She was out of the 2022-23 season due to an ACL tear over the off season. She returned for the 2023-24 season. Her 2024-25 season, she missed three games due to a knee/ankle injury (Sharma, 2025). An in-depth look at statistics before an injury and return from injury will be looked at by season and overall.

Minutes Played

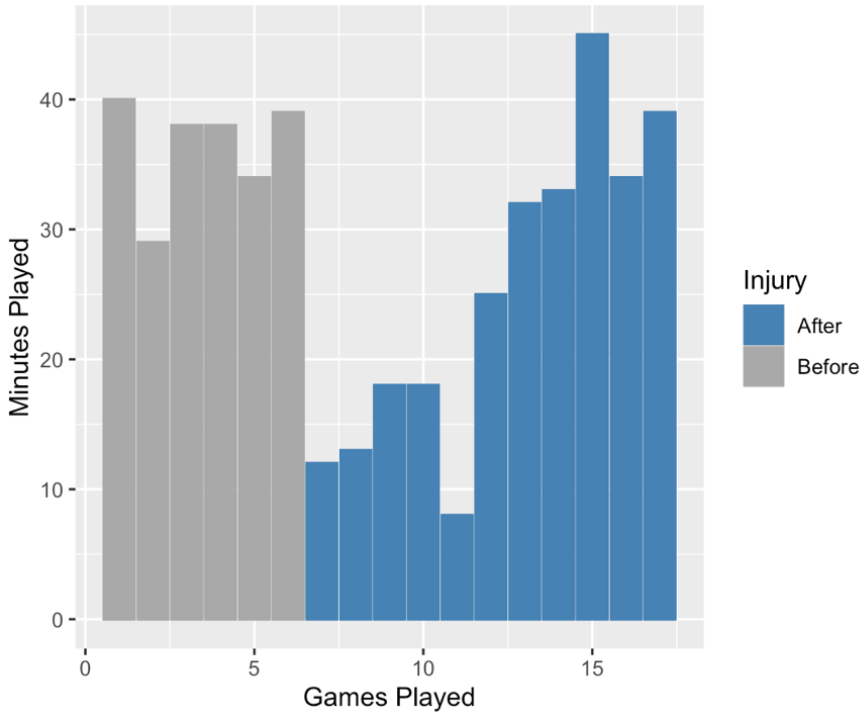
Prior to examining on-court performance statistics, it is essential to analyze minutes played across seasons, exploring variations in playing time and how these fluctuations may have influenced performance metrics. All the statistics used in the analysis were gathered from sports-reference.com.



The chart above shows Paige Bueckers' minutes played by career games 2020-25. In the blue shows her first season at UConn as a freshman, grey shows second season as a sophomore, light blue shows Junior year, and the dark blue shows senior year.

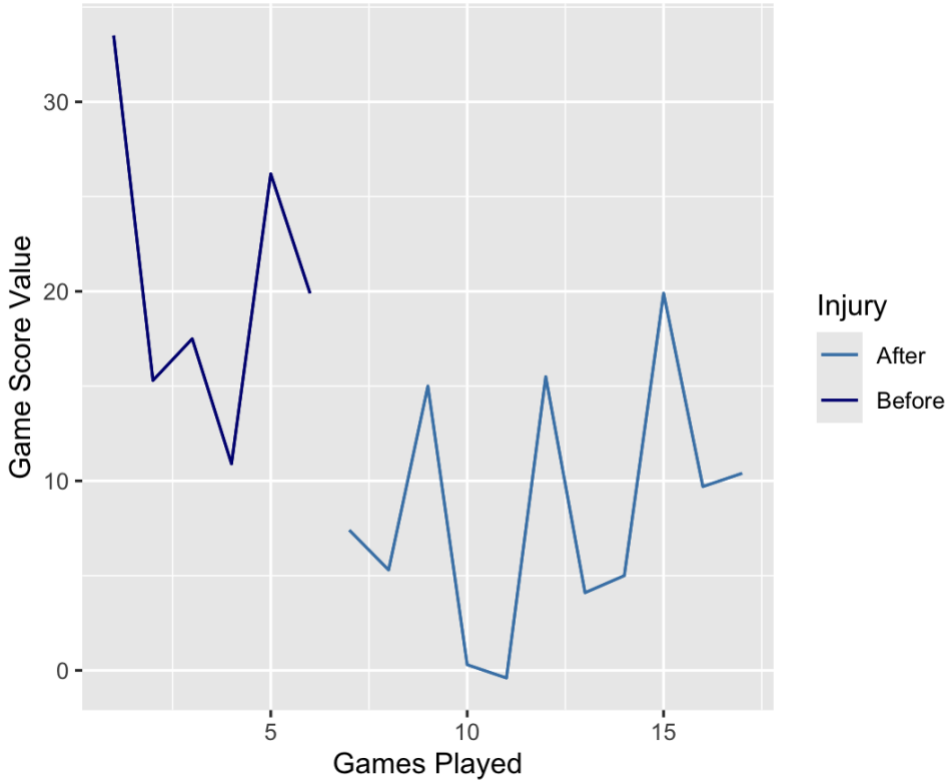
Paige's sophomore year at UConn had the greatest variability in minutes played and had the lowest total minutes played in a season over her career. This can be explained by an injury that happened on December 5, 2021. It required her to miss 12 weeks. She returned on February 25, 2022. We'll analyze and compare the minutes played in the 2021-22 season, then look at how performance statistics varied before and after injury. It is important to acknowledge that return to play occurred during only two conference games, followed by participation in the NCAA March Madness tournament. This context is critical to acknowledge when evaluating her performance as the level of competition intensifies during postseason play.

Before her injury, Paige played six games all in regular season with 5 of the six being non-conference games. She missed 20 games after her injury. She returned on February 25, 2022 for a regular conference game. She had only one more regular conference game before the NCAA tournament started.



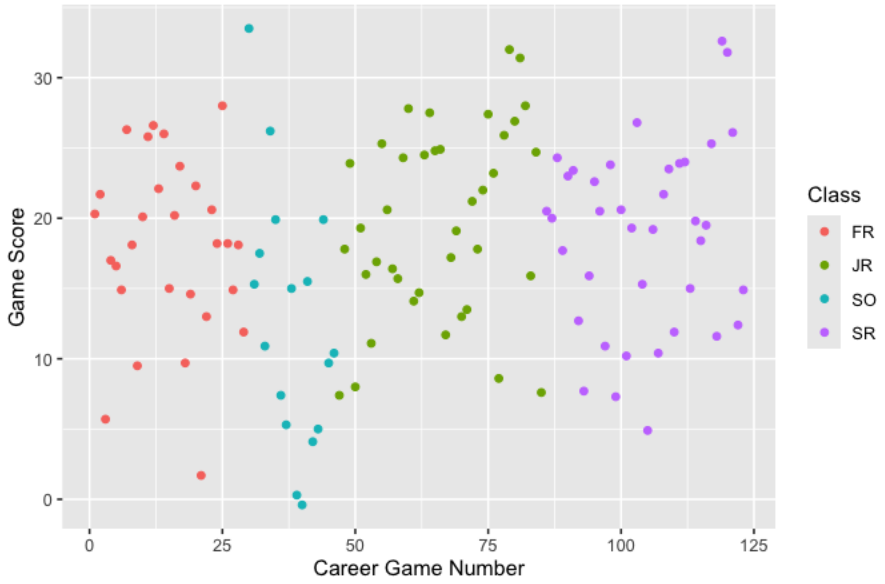
Before her injury she was averaging 36 minutes a game with minimum minutes played at 29 and a maximum at 40 minutes. After her return from injury, she averaged 25 minutes a game with a minimum of 8 minutes played and a maximum of 45 minutes (round eight of the NCAA tournament, Connecticut and NC State went into double overtime). The bar graph below shows that before her injury, she had a consistent play time between 29 to 30 minutes and her playing time did not vary much. After her injury, her return back playing time was limited. In her first six games back from injury, she averaged 16 minutes of playing time. In her last five games of the 2021-22 season in the NCAA tournament, back from her injury, she averaged 36 minutes a game. Part of this higher value is due to the double overtime with 45 minutes.

Game Score Value



The chart above shows Paige Bueckers 2021-22 season games played with the game score value. The game score value measures a player's productivity for a single game. A performance score of 10 is average, while a performance score of 40 is outstanding. The line in navy blue is her scores

before her injury while the line in lighter blue is her returning from her injury. She had a higher game score value before she was injured vs after. In both sections, her second game had a lower efficiency than the first game. Then increased the third game and had a decrease in score in the fourth game. Her game score never quite reached the highs of before her injury, she did have 4 games at or above average performance.



The scatter plot above shows Bueckers game score value over the course of her career. The red is representative of her first season, light blue is second season, green is third year, and the purple is her final season. Paige only experiences one game where her Game Score Value was not positive. This was her fifth game back from her 12-week injury leave. A negative game score is unusual for Bueckers. This may be explained by the fact she only played eight minutes as UConn beat Villanova 70-40. Of her 123 career games, 105 of them were equal to or above average productivity.

Offensive Performance

Season	Two %	Three %	Effective Field Goal %
2020-21	0.552	0.464	0.599
2021-22	0.613	0.353	0.591
2023-24	0.588	0.416	0.600
2024-25	0.586	0.419	0.600

Chart above shows Buecker's shooting percentage totals for each of her seasons at the University of Connecticut. In her freshman season in 2020-21, she averaged a .55 shooting percentage for two-point shots and averaged .46 for three-point shots. This gave her an average of .6 effective field goal score. In her sophomore season in 2021-22, she averaged a .61 shooting percentage for two pointers and a .35 shooting percentage for threes. The effective field goal percentage for that season was .59. Her sophomore year compared to her freshman year, her two-point shooting percentage went up by .06 and her three-point percentage went down .11. This can partly be explained by the fact she only attempted 51 threes in the 2021-22 season whereas she attempted 138 three-point shots. Her sophomore year she also had four games where she had a .00 shooting percentage for threes. She had three games where she had only attempted and missed one three pointers. She had one game where she shot two threes and missed both. She also had three games where she did not attempt a single three. Seven of the seventeen games she played her sophomore year she either had no attempts or had a .00 shooting percentage.

In her return from an off-season injury that made her miss the 2022-23 season, she averaged a .59 shooting percentage for two-point shots and a .42 shooting percentage for three pointers. Her two-point shooting percentage went down by .02 and her three-point shooting percentage increased by .07. Her effective field goal percentage ended up being .6. This was a .01 increase from before her injury. Her senior season in 2024-25 was consistent with the year before with her two-point shooting percentage at .59 and three-point percentage at .42 and effective shooting percentage at .6. There was no change percentage wise once she returned from injury.

Defensive Performance

Defensive performance is critical in determining a team's success and outcome in basketball. Defensive performance directly affects an opponent's offensive efficiency. A team's overall performance is made up of every player, so each individual's performance affects the team as a whole. We will look at Paige Bueckers defensive performance over the years and how it compared in times of returning from injury.

Season	Defensive Rebounds	Steals	Blocks
2020-21	128	66	11
2021-22	67	25	11
2023-24	168	86	53
2024-25	138	81	29

Chart above shows Bueckers' defensive totals for each year. It is important to remember that in the 2021-22 season, she played 10 to 20 less games than other seasons. Paige's return from her ACL injury in the 2023-24 season had impressive numbers. That year she had her career high season totals at 168 defensive rebounds, 86 steals, and 53 blocks. In her Per 40 statistics which are statistics that are divides by minutes played, multiplied by 40. This allows analysis between games when minutes are varied. In her return season, she averaged more blocks than any other year at 1.7 blocks. She averaged 2.8 steals in her return year and senior season. Her defensive rebounds did not change. In the season before injury, she averaged 5.4 defensive rebounds and in her return season averaged 5.4. These numbers hold up against the "Per 40" statistics. In the 2023-24 season, she increased her steals to 2.8, blocks at 1.7, and defensive rebounds at 5.4.

Pre- and Post-Injury Performance Summary

Paige Bueckers' performance during her collegiate career at the University of Connecticut was influenced by both minor and major injuries, particularly during her second season. That year, her three-point shooting percentage declined, although she recorded a career-high two-point field

goal percentage. Notably, in the seasons following her anterior cruciate ligament injury, her overall field goal percentage improved, suggesting an adjustment in shot selection or offensive efficiency. However, her three-point shooting never returned to the level she achieved during her freshman season, and her two-point field goal percentage did not surpass the peak reached in her second year. In her final seasons, Bueckers appeared to find a balance between perimeter and interior scoring, contributing to an increased effective field goal percentage, which accounts for the added value of three-point shots. Her defensive performance was influenced as well. In her return season, she increased defensive rebounds, steals, and blocks compared to other seasons.

Buecker's game score value was not drastically impacted by major injuries. She was able to return and have an above average score. Only once in her career did she score a negative value which can be attributed to low playing time and a blowout performance by UConn.

Throughout her collegiate career, Paige Bueckers faced significant physical setbacks, including in-season injuries that resulted in a 12-week period on the bench as well as missing an entire season due to an ACL injury. Despite these challenges, Bueckers demonstrated resiliency. She ultimately overall returned to a level of performance that is comparable to her pre-injury form. The analysis indicates that Bueckers recovered and continued to have individual and team success following her injuries.

Transfer to Non-Sport Analytics Contexts

Family and Medical Leave Act was passed in 1993 signed in by President Bill Clinton. It requires eligible employees to be able to take leave for certain family or medical reasons while keeping their health insurance coverage during their leave. The analysis in the paper of Paige's performance before and after injury with her year off in recovery can be transferred to analyzing workers performance before and after medical leave. In the "Family and Medical Leave Act Benefits Workers and Their Families, Employers" article on the U.S. Department of Labor website, it states that 91% of employers report that complying with FMLA has a positive or neutral effect on business operations. It also states that 90% of workers return to work with their employer after taking leave, which shows that investment in a worker is not lost under the act. The article on the National Partnership for Women and Families website states that more than a third of worksites

reported there was a positive effect on employee productivity, absenteeism, career advancement, or moral.

The same concepts of analyzing how a worker was performing before their leave and why their leave happened. If they were personally injured or taking care of someone else. Analyzing how much time they took away from work and how that affects their performance coming back. Do workers who take longer times away perform better or worse than workers who take shorter amounts of time away for similar injuries. Is it better for workers to take more time away or is it better for them to return to work sooner.

Citations

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