



IMPACT OF FIBA WORLD CUP 2023 ON PLAYER ACTIVITIES IN CLUB'S COMPETITIONS

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SUMMARY

This study was researched as a final thesis for the bachelor's degree of the student Alper Can Konak from Klaipėda University, Leisure Sports study program during the 2023-2024 educational year with the guidance of Dr. Mindaugas Balciunas. Effects of the national team participation over basketball players' club seasons were statistically analyzed in order to determine and evaluate the impact of the player's participation in the national team competitions on the players' club season game activity.

Keywords: basketball, In-Game Statistics, performance analysis, national teams, club teams.

Research object: Statistical performance changes of players who competed in the FIBA Basketball World Cup 2023 were researched and analyzed.

Aim: The aim was to understand the impact of a concentrated period of national competition on the performance indicators of players during the club season.

Research methods: Statistical analysis was applied to basketball in-game metrics by using 'Paired T-Test' and 'ANOVA' methods.

This study carefully evaluates the performance metrics of players from the top 8 national teams at the Basketball World Cup 2023.



We've created a four-tier system for categorizing club competitions, considering both player skill and overall competitiveness. This framework helps us better comprehend the evolving dynamics.

We defined the **1st Tier League** as the **NBA (National Basketball Association)**, recognizing it as the pinnacle of basketball worldwide due to its unparalleled level of talent and competition.

We've designated the **Euroleague and the G-League** (noting that only one of the 95 players in our study participated in the G-League) as **2nd Tier Leagues**. This classification is based on their competitive level and the significant number of players who view these leagues as a steppingstone to the NBA.

We've chosen the '**Eurocup,**' '**Basketball Champions League (BCL),**' and the **NCAA** (with only one of the 95 players in our study participating in the NCAA) as **3rd Tier Leagues**. These leagues represent a level of competition where players are in the development phase, typically possessing considerable potential to enhance their basketball skills and overall game.

NBA Players Performance Analysis



Players participating in the NBA for both seasons: 29 players.

Among the 23 statistical metrics evaluated, significant enhancements were observed in **five** key areas, with the following p-values indicating their statistical significance:

- **Three-Point Shots Made:** Increased, $p = 0.006950878$
- **Three-Point Shots Attempted:** Increased, $p = 0.012934959$
- **Assists Per Game:** Increased, $p = 0.000205041$
- **Free Throws Made:** Increased, $p = 0.007670453$
- **Free Throws Attempted:** Increased, $p = 0.002068603$

Euroleague Players Performance Analysis



Players participating in the Euroleague for both seasons: 24 players.

Players not in the Euroleague in the 22-23 season and moved to the Euroleague for the 23-24 season: 6 players.

Players who played in the Euroleague in the 22-23 season and then either moved to a different league or had no league participation mentioned for the 23-24 season: 4 players.

Among the 23 statistical metrics evaluated, significant changes post-national team participation was observed in four key areas:

- Games Played: Increased significantly, $p = 0.001071876$, suggesting higher player availability.
- Free Throw Percentage: Improved significantly, $p = 0.015178059$, indicating increased scoring efficiency.
- Offensive Rebounds: Showed a significant increase, $p = 0.025182003$, reflecting enhanced offensive engagement.
- Personal Fouls: Increased significantly, $p = 0.024165719$.

Eurocup, BCL or NCAA Players Performance Analysis

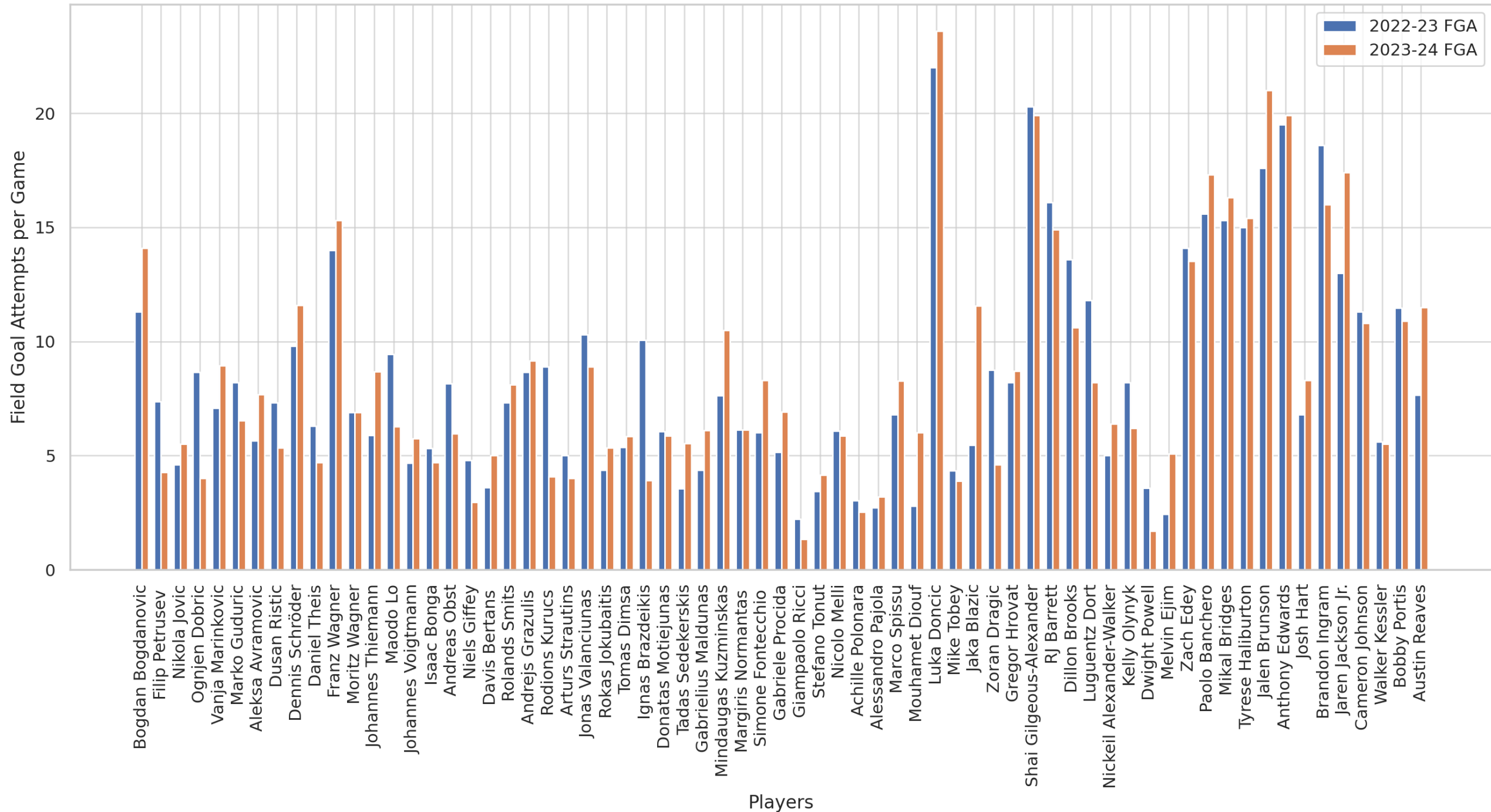


Players participating in the Eurocup, Basketball Champions League or NCAA for both seasons: 14 players.

Among the 23 metrics analysed, significant improvements post-participation were identified in the following seven areas:

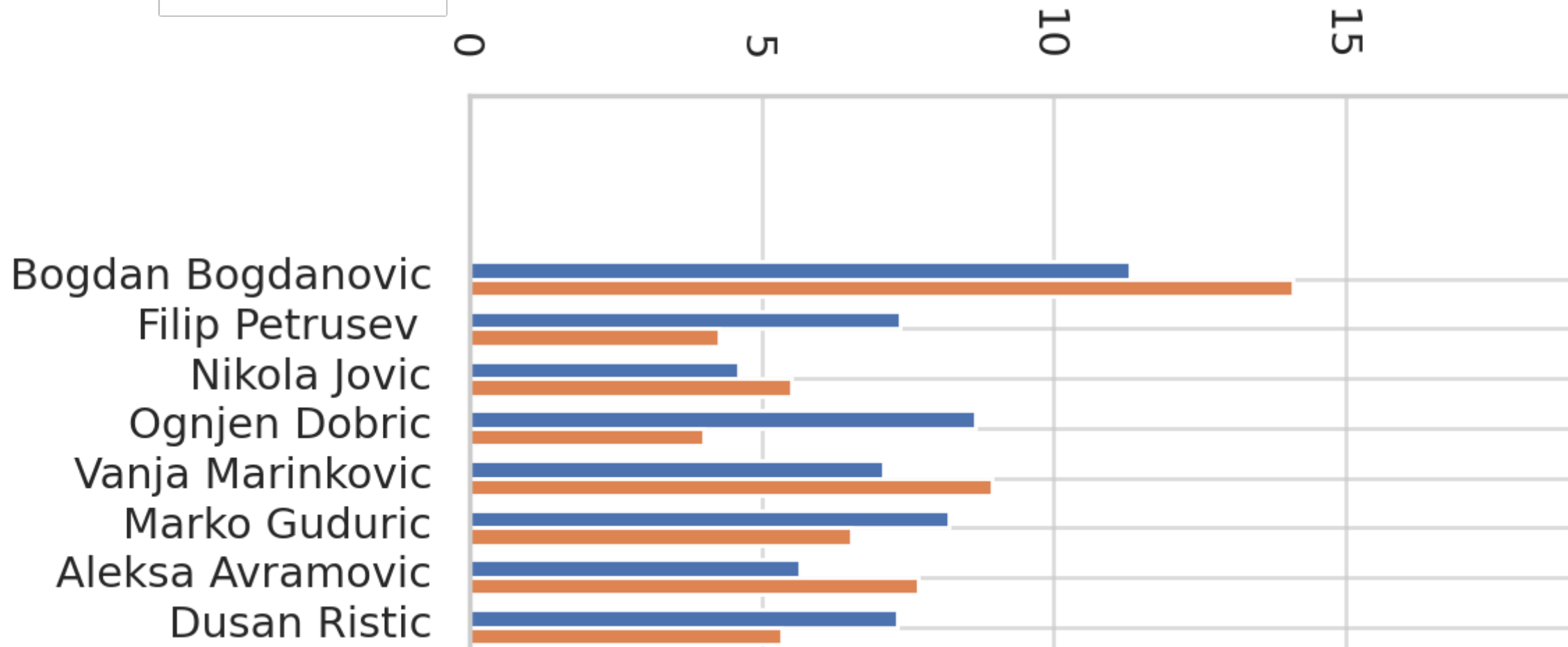
- Points Per Game: Significant increase, $p = 0.044890755$
- 2pt Percentage: Significant improvement, $p = 0.027256339$
- 3Pt Percentage: Significant increase, $p = 0.024837118$
- Field Goals Percentage: Enhanced performance, $p = 0.016044439$
- Free Throws Made: Increased, $p = 0.032177449$
- Free Throws Attempted: Increased, $p = 0.029768978$
- Steals: Improved, $p = 0.04313543$

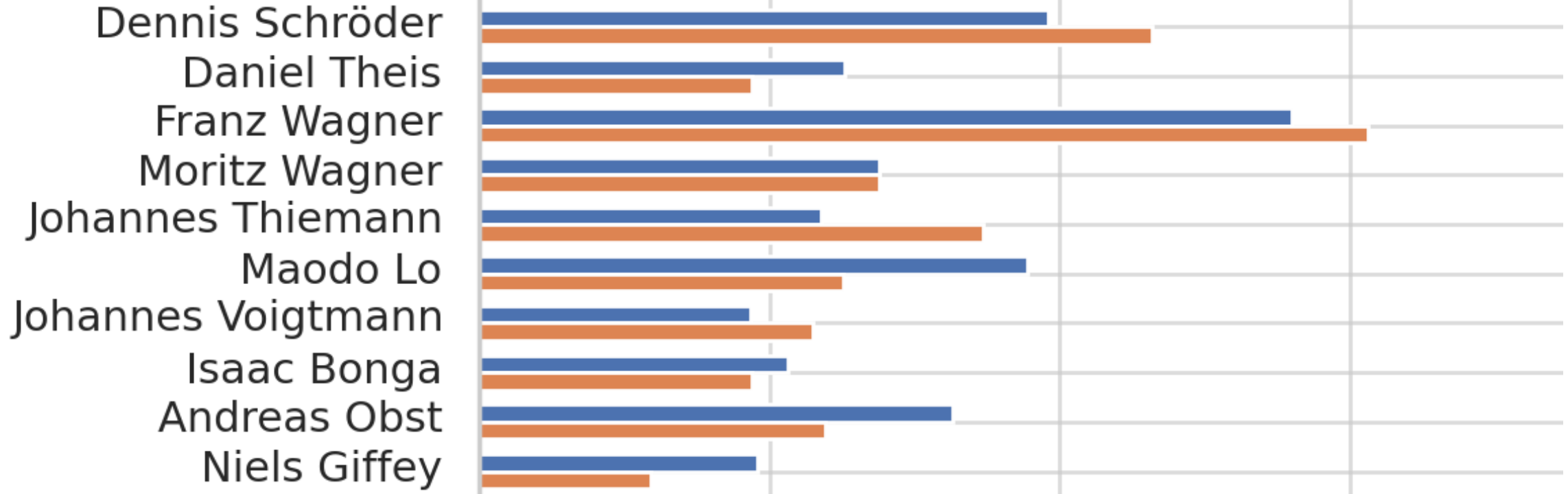
Comparison of Field Goal Attempts per Game by Players Across Seasons





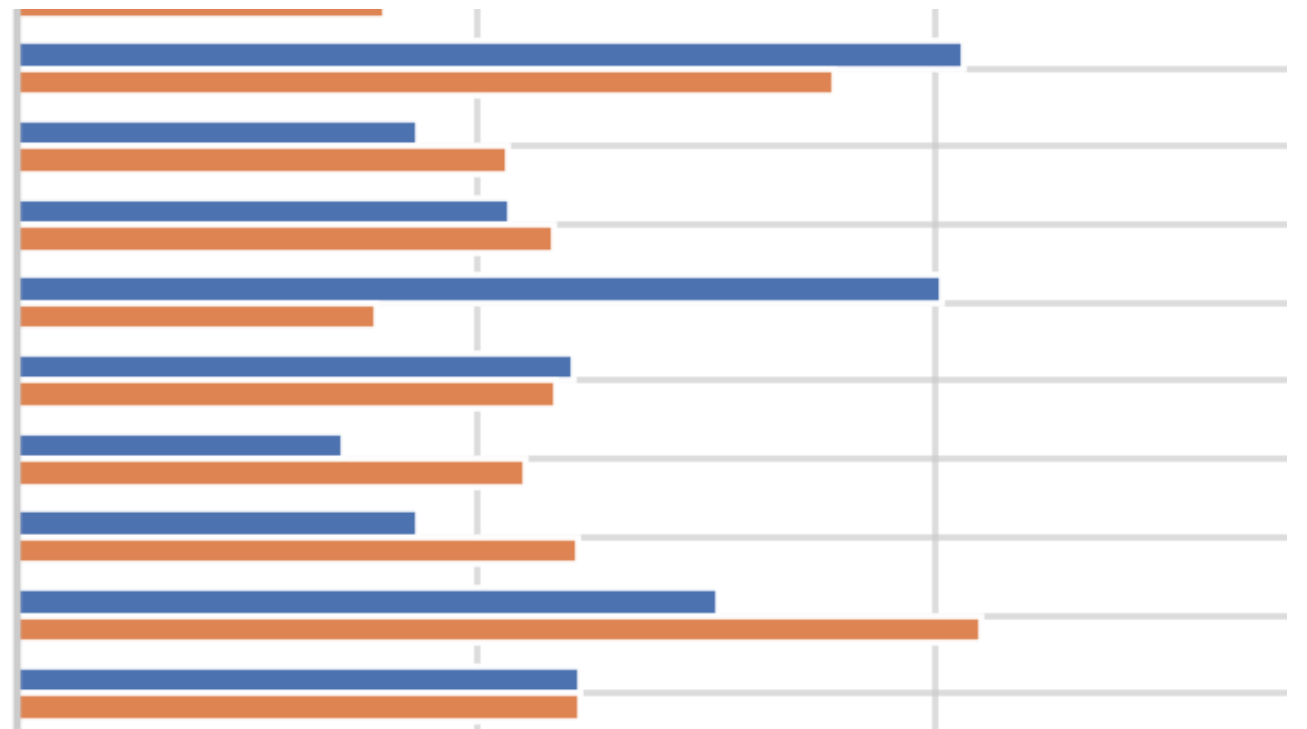
Field Goal Attempts per Game

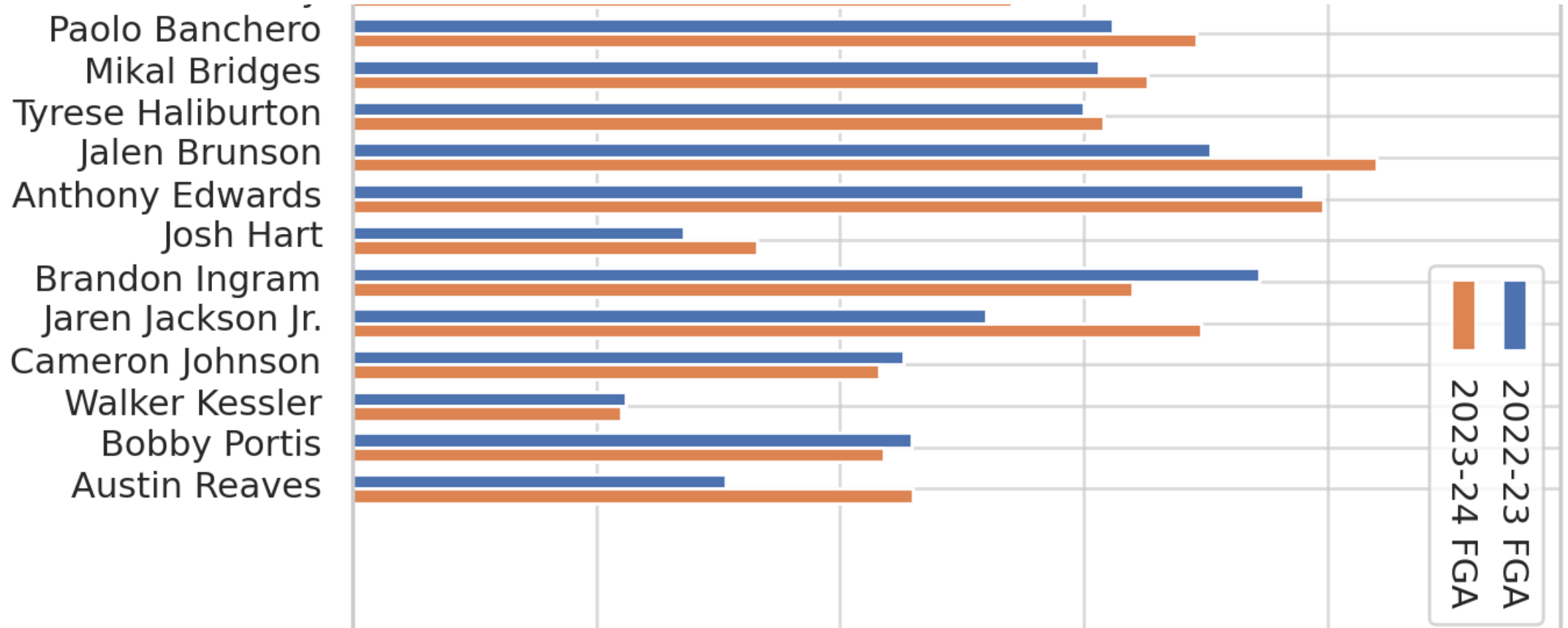






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Conclusion

- **Players who compete in 3rd tier competitions (Eurocup, BCL, and NCAA) had a significant increase on 9 different metrics which are:** points per game (increased by 1.91, P-Value: 0.0427), 2-point Shooting Percentage (slightly more than in 2022-23 season by 0.06, P-Value: 0.0420), 3-point Shooting Percentage (13.7% increased, P-Value: 0.0037), Field Goal Percentage (increased by 0.055, P-Value: 0.0061), Free throws Made per game (total increase is 0.667 free throws per game, P-Value: 0.0015), Free Throws Attempt (0.965 more times per game, P-Value: 0.0015), Percentage of Successful Free-Throws (0.026 increased, P-Value: 0.0224), Offensive Rebounds Per Game (players received second chances to attack 0.263 times more, p-value: 0.0238).
- Meanwhile, 1st tier competition (NBA) players showed an increase in four particular metrics by participating in approximately 3.31 more games (P-Value: 0.0297), **3-point Shooting Percentage increased by approximately 2.57% (P-Value: 0.0037)**, Field Goal Percentage slightly increased of 0.003 (P-Value: 0.0061). and Free Throws Percentage improved by 0.007 in success rate (P-Value: 0.0224).
- Although the other two competition players showed significant increases in their important metrics, there were no statistically significant increases detected for the players who play in the Euroleague, this is an interesting topic for future research on how these players are either not affected or affected negatively while the other players showed increased basketball statistics.

Conclusion



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It is fair to state that competing in the Basketball World Cup helped players to improve their all type of shooting percentages, which supports the evolving trends of modern basketball (Zhou et al., 2024), assist skills, court vision, and decision-making processes regardless of the level of club competition they normally play and a reduction in personal fouls that shows players are acting smarter with the experience they gain.

Conclusion

Different position groups showed different types of changes in their game with the effect of national team experience in 10 different metrics. **Guard players experienced a positive effect on nine basketball metrics** which are 'Minutes Per Game', 'Points Per Game', '2-Pointers Attempt', 'Percentage of 2-Point shots', '3-Pointers made per game', '3 pointer shooting attempts', 'Field Goals made per game', 'Field goals attempt' and the 'number of assists per game'. **Big men followed the perimeter ball handlers with an increase on eight in-game statistics** which are 'Minutes Per Game', 'Points Per Game', '2-Pointers Attempt', '3-Pointers made per game', '3 pointer shooting attempts', 'percentage of 3-point shoots', 'Field goals attempt' and the 'assists per game'.

