



# Was the 2022 FIFA World Cup in Qatar a bad omen for the future of football? A retrospective analysis of elite player performances in the 2017/18 and 2022/23 World Cup seasons


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## ABSTRACT

Over time, football (soccer) has surpassed its core functions to become a pivotal element within the entertainment industry: billions tune in to watch mega-events such as the Champions League, European Championship, or the World Cup, and even individuals who aren't avid fans experience certain facets of this phenomenon. As games are strongly commercialized today, organizations persistently strive to innovate the sport (e.g., introducing VAR or 10-15 minutes extra time), the number of games per season increases, and mega-events venture into unfamiliar territories, exemplified by the recent winter World Cup in Qatar. This study compares data from the last two World Cup seasons to address a fundamental question: How did the unconventional Qatar tournament affect the 2022/23 football season? Analysis revealed that while the 2022 World Cup produced impressive statistics, the club season witnessed a decrease in goals and assists (GA) compared to 2018, indicating potential challenges with the transition to the Qatari conditions. Factors such as playing position, national team federation, club league tier, and league position were identified as significant contributors to these transitional challenges. These findings gain added importance with Saudi Arabia hosting the 2034 World Cup, underscoring the need for more research to grasp the challenges ahead. **Keywords:** Performance analysis, 2022 FIFA World Cup Qatar, 2034 FIFA World Cup Saudi Arabia, Congested football calendar, Match load, Fatigue, Recovery, Sports performance.

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## INTRODUCTION

On December 2, 2010, Qatar, a captivating Gulf State, defied all initial expectations and secured the bid to host the 2022 FIFA World Cup (WC 2022). Triumphant over formidable contenders such as Australia, Japan, South Korea, and the USA (FIFA, 2010), Qatar made history as the first Islamic, Arab, and desert nation to be selected as the host for this prestigious global football event. Despite the optimistic aspirations of Qatar for a sustainable 2022 World Cup and their ambitious nation-building goals aligned with the Qatar National Vision 2030 project of Qatar's economic, social, human, and environmental development (Scharfenort, 2012; Henderson, 2014; Azzali, 2019; Brannagan et al., 2023), the tournament has faced strong scepticism. Being one of the smallest countries to ever host a World Cup, with limited football history, infrastructural deficiencies, and challenging desert climate, questions have been raised about the potential positive outcomes Qatar can achieve (Meza Talavera et al., 2019; Brannagan and Reiche, 2022; Brannagan et al., 2023). The criticism surrounding the Qatar tournament has originated from various sources, among others spanning political, economic, and sport realms. The various issues surrounding the Qatar tournament have received considerable media coverage, with some tabloid press and other prominent news outlets branding it as a “*Qatarstrophe*”, reflecting the concerns that FIFA's flagship product may be seriously damaged along the way (Scharfenort, 2012). These controversies surrounding the current WC prompt us to question the future of a mega-event where financial aspects may have overshadowed core elements, namely sport and festivity – the celebration of fans and athletes (András, 2003; Griszbacher et al., 2022). Moreover, the uncertain destiny of the newly constructed extensive infrastructure, such as the huge stadiums, in the context of a small nation raises concerns about the long-term legacy – as Azzali (2019:58) poignantly asks, “*But what will remain once the 2022 World Cup is over?*”.

As the event drew nearer, all attention shifted towards the matches, with the hope that the players would deliver exceptional performances capable of overshadowing the controversies surrounding the tournament. It is important to acknowledge that, from an organizational standpoint (FIFA/Qatar), the tournament itself was executed with a relatively smooth operation, despite the surrounding negativity (aside from some questionable refereeing decisions). As a result, the overall assessment of the World Cup held amidst significant controversies in last December can be viewed as positive. However, it can be argued that the few unforgettable and positive aspects may not be associated with the host nation. Instead, what will likely remain etched in our memories is possibly superstar Lionel Messi playing a pivotal role in securing his first-ever World Cup victory winning by penalties in a thrilling final against France (3-3), led by his PSG club teammate Kylian Mbappé. This sentiment was echoed in the opening headline of *The Washington Post* (2022), which stated eloquently the following: “*The players saved this World Cup, but soccer deserves so much better.*”. These lines align with the statement made by German football legend Philipp Lahm prior to the tournament, who voiced his disapproval of hosting the World Cup in Qatar by saying, “*Holding the World Cup in Qatar has damaged football and I will not be going*” (*The Guardian*, 2022), speaking both as a disillusioned fan and (ex)player. These concerns eventually materialized throughout the tournament and can be categorized as follows:

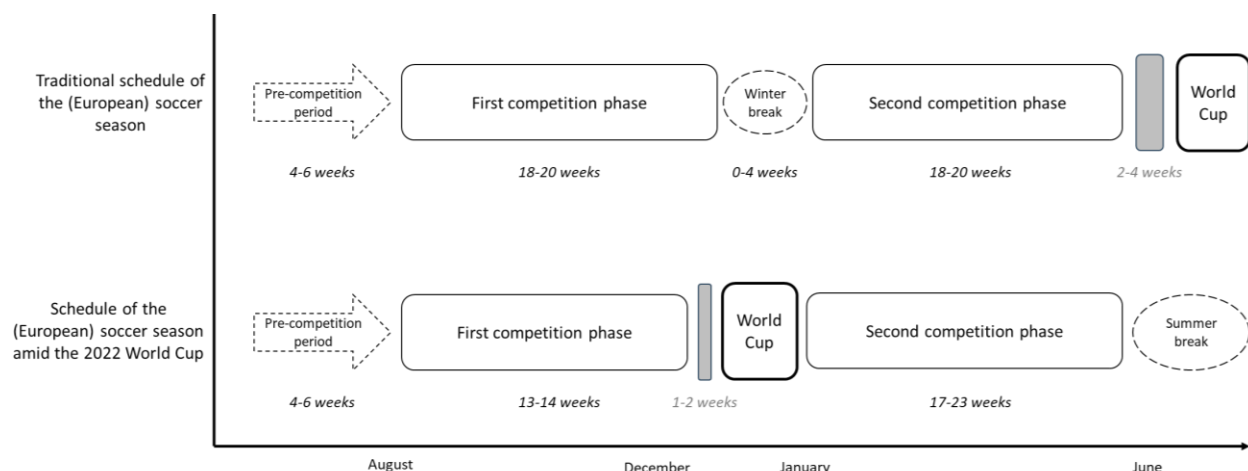
1. The ‘Qatar-service’ far below expectations:
  - Fans spent a fortune to cheer for their favourites in Qatar, yet had to live in ‘shipping containers’ close to the desert (Forbes, 2022),
  - Issues with accessing the venue and FIFA's ticketing system,
  - Restrictions on certain fan rituals like alcohol consumption (Scharfenort, 2012; Dun, 2014; Henderson, 2014; Ottenfeld et al., 2019).

2. Previously deemed top-level matches not meeting the WC-quality standards:

- In spite of a thrilling finale that featured six goals (after extra time) and the highest average number of goals per game recorded in the 21st century (Statista, 2023), several of the other matches still fell short in terms of intensity and excitement,
- The Qatari team futureless performance, and thus early exit from the tournament without making any significant achievements meant that the tournament missed out on the otherwise important dynamic between the home team and the crowd (Maennig, 2008; Scott et al., 2012; Pollard and Armatas, 2017).

Taking into account the extensive financial resources dedicated to the event and the significant promises made beforehand (Meza Talavera et al., 2019; Brannagan et al., 2023), it is important to adopt a critical perspective and acknowledge that the World Cup in Qatar has not lived up to the majority of its commitments, specially to the fans – proving the eternal fact that “*there are some things money can’t buy.*” (Forbes, 2022).

Now the seldom-posed question arises: even when talking about elite players, how can we anticipate them to surpass all the challenges of the tournament and shine in their best form, given Qatar’s exceptional circumstances? Due to the scorching summer temperatures exceeding 35°C (FIFA, 2010), from the first moment it became challenging (taking into consideration athlete performance and fan satisfaction) to host the event successfully (Chodor et al., 2021), prompting a weighty decision to postpone the event from the summer of 2022 (off-season) to the winter (in-season):



Source: Own compilation based on Zouhal et al. (2022:484).

Figure 1. The schedule of the European football season in a 'normal' WC year vs. Qatar 2022.

As a result of industrialization and the accompanying substantial financial incentives associated with achieving success at the highest level (András, 2003; Çobanoğlu, 2019), the physical and mental expectations placed on players have steadily risen over recent decades (Lago-Peñas and Sampaio, 2015; Zouhal et al., 2022), evident in the escalating frequency of fixtures (varying between 40 and 76 per season - Ekstrand et al. (2004)). The non-traditional Qatari schedule caused severe headaches for all football stakeholders (among others, fans, players, coaches, and club owners) as key players had to go on an international duty in the middle of the season (most elite football seasons were extraordinary paused from early November to late December due to the World Cup – see Figure 1 (Zouhal et al., 2022)), creating additional complications and adjustments by “*play(ing) havoc with the 2022-23 football calendar*” (The

Athletic, 2022). For example, as reported by Ekstrand et al. (2019), the absence of a winter break has been linked to an increased injury burden (originally the length of the break varies based on the league association and individual teams). Additionally, as indicated by Clemente et al. (2021), travel fatigue and heavy workload during congested periods (where training/match load and available recovery time strongly dependent on the match schedule, which can involve 0, 1, 2, or even 3 matches per week (Anderson et al., 2015; Clemente et al., 2019)) have the potential to negatively affect athletes' sleep patterns, increasing the risk of injuries, illnesses, and hindering overall performance. These examples also underpin the point of Ekstrand et al. (2004) in the study "A congested football calendar and the wellbeing of players", regarding the existence of a connection between the level of exposure to match-play by footballers in elite European clubs leading up to the 2002 World Cup and their subsequent injuries and performance during that season. Nonetheless, as proposed by McCall et al. (2018), our understanding is significantly constrained when it comes to the transition between club and national teams.

The interrupted 2022/23 club season, coupled with the added burden of international matches under extraordinary circumstances, significantly affects the normal routines of players, even at a top level (Zouhal et al., 2022). As a result, this could easily cast a shadow over their performance, both during the World Cup and outside of the tournament:

Table 1. Possible difficulties arising from the mid-season World Cup.

Clubs	National Teams
<p>Top leagues (where needed) paused for the duration of the WC, however other leagues continued:</p> <ul style="list-style-type: none"> <li>- 2022 WC: travelling + new environment + extra trainings + match loads.</li> <li>- Many top domestic championships commence a mere 10 days following the World Cup.</li> <li>- Even with international duties, all clubs want their players back equally without injuries and with adequate form and fitness (WC starters/non-starters - having 3 matches (group) or even more): <ul style="list-style-type: none"> <li>o Smaller clubs cannot afford to lose their best player(s) even for a single match (limited budget and squad).</li> <li>o Bigger clubs giving more players to the national teams → missing important trainings with the rest of the team → team coordination &amp; cohesion can easily decrease.</li> </ul> </li> </ul>	<p>In November-December players would have mid-season matches (England) or mid-season break (most of Europe) and off-season break (e.g., South America):</p> <ul style="list-style-type: none"> <li>- Players arriving with very different backgrounds (non-European/European clubs: expectations–championship's strength, number of games completed, exposure to match-play starters / non-starters / fringe players etc.).</li> <li>- Many players not used to play wintertime.</li> <li>- New environment (e.g., hot winter?).</li> <li>- Mid-season and out-of-form players.</li> <li>- Less than a week of real preparation available for the national teams before the World Cup.</li> <li>- Unpredictable form of the players → unpredictable teams and fixtures.</li> </ul>

Source: own compilation.

While there is strong evidence that the quality of matches, determined by the players' performance, is a crucial aspect of the sports experience and, consequently, the success of a sports event (András, 2003; Ko et al., 2011; Horbel et al., 2016, Griszbacher et al., 2022), as far as the author is aware, only the pre-WC "Letter to editor" from Zouhal et al. (2022) considers the impact of the unconventional schedule of the 2022 FIFA World Cup on the players performances. Conducting studies in this research area is imperative, given

the potential impact of this disruption (Zouhal et al., 2022), as it could potentially result in players underperforming (or even getting injured) at the national level during the tournament and subsequently at the club level after the cup (see Table 1), thereby raising significant concerns about the future programme of the WCs. Hence, the objective of this paper is to conduct an in-depth examination of the extraordinary 2022/23 football season, which culminated in the World Cup held in Qatar, addressing the following research inquiries:

- RQ1.: Can we observe peak performance levels from players at the 2022 World Cup in Qatar?
- RQ2.: Is there evidence of players' club performance fluctuations pre-Qatar vs. post-Qatar?
- RQ3.: Are there any factors that appear to impact the pre/post-Qatar forms?

This study also introduces a novel approach to better examine the potential disruptive nature of the 2022 World Cup by comparing key player statistics from a 'normal' World Cup season (17/18) with the recent Qatari one, thereby adding another dimension to the investigation for comparative purposes:

- RQ4.: Do we find similar patterns between the World Cups in Russia and Qatar?

Due to the great doubts about its legacy, the Qatar World Cup has become a topic of great interest to many practitioners and researchers, leading to numerous studies being conducted on the subject in different fields (e.g., economics, sociology, recreation, tourism, or public health) (Brannagan et al., 2023). At present, it is apparent that much of the WC-related research is directed towards the opportunities and challenges of the host nation (stakeholder questionnaires and interviews), with less attention given to one of the most crucial components of the event: the sport factor itself. The primary service (match) experience usually comprises of the perceived level of service quality, unique event experiences, buzzing atmosphere, scintillating clashes, spectacular moves, and ultimately, the result (goals scored by the teams) (Ko et al., 2011; Horbel et al., 2016). Hence, as a key player of the entertainment industry, the success of sports events and the return on the huge investments heavily rely on high-quality/top-level matches (e.g., Qatar invested over \$200 billion in "A Flawed World Cup" (Forbes, 2022), a record-breaking sum that far exceeds the amounts spent on previous editions – choosing a costly resolution of the infrastructural challenges, which will be hard to justify even with certain 'soft benefits'). As Shultz et al. (2015) also suggests, questions constantly arise about the World Cups: Is it genuine sporting joy or just "bread and circus"? Is FIFA seen as oppressive or as guardians of the game's integrity? Do World Cup activities support or hinder sustainability? While impoverished nations and individuals are usually passionate supporters, do they genuinely benefit from this worldwide event? If not, who truly gains, and to what degree?

## MATERIAL AND METHODS

Football is a multifaceted and ever-changing team sport, necessitates a thorough understanding of the factors that contribute to sporting success. In this regard, match analysis has emerged as a crucial tool as every match holds significance: the outcome of winning or losing is contingent upon the interplay of various technical, tactical, mental, and physiological factors, yet there can be significant variations between matches due to contextual elements such as championship type, previous results, opponents, tactics, scorelines, or further unpredictable environmental conditions (Njororai, 2013; Tuo et al., 2019; Mićović et al., 2023).

In general, one of the most studied variables in sport studies are the goals since the entire football ecosystem, which involves substantial investments, heavily relies on 'football festival' games, manifesting principally in terms of goals – the essence of the sport (Njororai, 2013; Kubayi and Toriola, 2019; Mićović et al., 2023). As Kubayi and Toriola (2019:231) put it, "goal scoring provides the most exciting and fascinating positive experience for soccer fans as well as coaches and analysts.", consistently Çobanoğlu (2019:184) added that "There is only one statistic in football that explains the score without mistake, which is the statistics of the ball

that crosses the goal line, i.e., the number of goals.”. Evidently, goals serve as the definitive factor in determining the outcome of a match and distinguishing the top teams from the rest. Considering that the World Cup stands as the ultimate representation of the evolution and standard of modern soccer, it presents an ideal dataset for studying the match performance indicators of top soccer players hailing from different continental confederations (Acar et al., 2009; Castellano et al., 2012; Njororai, 2013; Wallace and Norton, 2014; Kubayi and Toriola, 2019; Tuo et al., 2019). Yet, there is a scarcity of research in this field, as previous studies were mostly based on a single tournament, thus offering limited insights into the underlying mechanisms (Kubayi and Toriola, 2019; Mićović et al., 2023). As a result, there has been a notable absence of prior investigations exploring player performances (i.e., goals and assists), during the transition between club and national duties, particularly across different tournaments. Therefore, this study is distinct in its focus and fills an existing gap in the literature. The study applied already well-established methods in sport sciences by adopting a ‘post-facto quasi-experimental’ design (Tenenbaum and Driscoll, 2005), using official match data for the FIFA World Cup tournaments in 2018 and 2022. As highlighted by Þorgeirsson et al. (2022), the analysis of publicly available data sourced from websites is a common practice in this field (Hughes and Franks, 2004; Carling et al., 2009; McGarry et al., 2013).

### **Participants and procedures**

All data collection procedures occurred during May - July 2023; the data were retrieved from the open access FIFA portal. The data obtained from the FIFA website proved to have a high reliability index (Cohen’s Kappa (K) between 0.93 and 0.97) by previous studies, making it suitable for such research purposes (Castellano et al., 2012; Njororai, 2013). The player statistics, along with their respective teams, listed in the study were extracted from fifa.com and organized in a spreadsheet using Microsoft Excel. Moreover, to enhance comparative analysis, supplementary player information including player profiles and domestic club data was sourced from transfermarkt.com, one of the most renowned and prominent sports websites.

To analyse the potential fluctuations in key performance indicators, the study employed the goal-scoring charts from the 2018 and 2022 World Cups as an initial dataset, the inclusion criteria were recording a minimum of 4 points (goal = 2 points, assist = 1 point, as per NCAA, 2021) during the tournament. This method was chosen to be able to study how standout World Cup performers, those who pushed themselves to excel (i.e., in terms of goals and assists) during the short World Cup window, managed to adapt during transitions between club and national teams during both typical and atypical World Cup seasons. Ultimately, the final sample consisted of 28 players in the 2018 WC and 41 players in case of the 2022 WC (Table 2). The main game-related statistics collected for analysis included the following: the number of available matches, matches played, available minutes, minutes played, goals scored, assists provided, as well as the final tournament place for both clubs and national teams in the relevant seasons. After addressing any errors, the data were retrospectively analysed and presented descriptively through tables and figures. The statistical analyses were performed using IBM Statistical Package for the Social Sciences 28 software (SPSS), with a statistical significance  $p < .05$  (where not suggested otherwise).

The study was conducted in compliance with the ethical principles outlined in the Declaration of Helsinki and aligned with the guidelines provided by the Belmont Report (1978); neither informed consent nor a review by the relevant ethics committee were required, as per the study’s conditions: (1) the subject of investigation was the match-performance data produced by professional soccer players, which is publicly available through various statistics portals; (2) the study did not entail any researcher intervention or direct involvement with human or animal subjects (see also Tuo et al., 2019; Flores-Rodríguez and Alvíte-de-Pablo, 2022; Þorgeirsson et al., 2022).

## RESULTS

Table 2 presents the goal-scoring charts for the last two FIFA World Cups (Qatar 2022 vs. Russia 2018), serving as the cornerstone of the analysis (as previously mentioned, only players with a minimum of 4 points, comprising 2 points for a goal and 1 point for an assist, are included).

Table 2. The comparison of the goalscoring charts from WC'18 and WC'22.

2022 FIFA World Cup - Qatar (from 20 Nov to 18 Dec 2022)							2018 FIFA World Cup - Russia (from 14 June to 15 July 2018)								
	Name	Age	Main position	WC goals	WC assists	WC matches played (/all)		Name	Age	Main position	WC goals	WC assists	WC matches played (/all)		
1	Kylian Mbappe	23	fwd	8	2	7 (7)		1	Harry Kane	24	fwd	6	0	6 (7)	
2	Lionel Messi	35	fwd	7	3	7 (7)		2	Antoine Griezmann	27	fwd	4	2	7 (7)	
3	Julian Alvarez	22	fwd	4	0	7 (7)		3	Romelu Lukaku	25	fwd	4	1	6 (7)	
3	Olivier Giroud	36	fwd	4	0	6 (7)		4	Denis Cheryshev	27	mid	4	0	5 (5)	
5	Alvaro Morata	30	fwd	3	1	4 (4)		4	Cristiano Ronaldo	33	fwd	4	0	4 (4)	
5	Goncalo Ramos	21	fwd	3	1	4 (5)		4	Kylian Mbappe	19	fwd	4	0	7 (7)	
7	Richarlison	25	fwd	3	0	4 (5)		7	Artem Dzyuba	29	fwd	3	2	5 (5)	
7	Marcus Rashford	25	fwd	3	0	5 (5)		7	Eden Hazard	27	fwd	3	2	6 (7)	
7	Bukayo Saka	21	mid	3	0	4 (5)		9	Mario Mandzukic	32	fwd	3	1	6 (7)	
7	Cody Gakpo	23	fwd	3	0	5 (5)		9	Ivan Perisic	29	mid	3	1	7 (7)	
7	Enner Valencia	33	fwd	3	0	3 (3)		11	Yerry Mina	23	def	3	0	3 (4)	
12	Harry Kane	29	fwd	2	3	5 (5)		11	Diego Costa	29	fwd	3	0	4 (4)	
12	Bruno Fernandes	28	mid	2	3	4 (5)		11	Edinson Cavani	31	fwd	3	0	4 (5)	
14	Neymar	30	fwd	2	1	3 (5)		14	Wahbi Khazri	27	fwd	2	2	3 (3)	
14	Niclas Füllkrug	29	fwd	2	1	3 (3)		14	Phillippe Coutinho	26	mid	2	2	5 (5)	
14	Mehdi Taremi	30	fwd	2	1	3 (3)		16	Neymar	26	fwd	2	1	5 (5)	
14	Robert Lewandowski	34	fwd	2	1	4 (4)		16	Takahashi Inui	30	mid	2	1	4 (4)	
14	Vincent Aboubakar	30	fwd	2	1	3 (3)		16	Luis Suarez	31	fwd	2	1	5 (5)	
19	Ferran Torres	22	fwd	2	0	4 (4)		16	Luka Modrić	32	mid	2	1	7 (7)	
19	Wout Weghorst	30	fwd	2	0	4 (5)		20	Mohamed Salah	28	fwd	2	0	2 (3)	
19	Rafael Leao	23	fwd	2	0	5 (5)		20	Sergio Agüero	30	fwd	2	0	4 (4)	
19	Kai Havertz	23	mid	2	0	2 (3)		20	Ahmed Musa	25	fwd	2	0	3 (3)	
19	Andrej Kramaric	31	fwd	2	0	7 (7)		20	Heung-Min Son	25	fwd	2	0	3 (3)	
19	Giorgian de Arrascaeta	28	mid	2	0	2 (3)		20	Mile Jedinak	33	mid	2	0	3 (3)	
19	Breel Embolo	25	fwd	2	0	4 (4)		20	Andreas Granqvist	33	def	2	0	5 (5)	
19	Aleksandar Mitrovic	28	fwd	2	0	3 (3)		20	John Stones	24	def	2	0	7 (7)	
19	Youssef En-Nesyri	25	fwd	2	0	7 (7)		27	Aleksandr Golovin	22	mid	1	2	4 (5)	
19	Ritsu Doan	24	fwd	2	0	4 (4)		27	Juan Fernando Quintero	25	mid	1	2	4 (4)	
19	Cho Gue-sung	24	fwd	2	0	4 (4)									
19	Salem Al-Dawsari	31	mid	2	0	3 (3)									
19	Mohammed Kudus	22	mid	2	0	3 (3)									
32	Ivan Perisic	33	mid	1	3	7 (7)									
33	Vinicius Jr.	22	fwd	1	2	4 (5)									
33	Theo Hernandez	25	def	1	2	6 (7)									
33	Phil Foden	22	mid	1	2	4 (5)									
33	Denzel Dumfries	26	def	1	2	5 (5)									
33	Davy Klaassen	29	mid	1	2	4 (5)									
33	Raphaël Guerreiro	28	def	1	2	4 (5)									
33	João Félix	23	fwd	1	2	4 (5)									
33	Mislav Oršić	29	fwd	1	2	6 (7)									
33	Christian Pulisic	24	fwd	1	2	4 (4)									

Source: own compilation based on FIFA statistics.

In each tournament, thirty-two teams played a total of 64 matches, scoring 169 goals in Russia ( $x = 2.64/\text{match}$ ) and 172 goals in Qatar ( $x = 2.69/\text{match}$ ) – worth noting that the scales tilt in favour of Qatar primarily due to the goal-rich final match (3-3), with notable contributions from the exceptional players Kylian Mbappe (3 goals in the final, 8 goals 2 assists altogether) and Lionel Messi (2 goals in the final, 7 goals 3 assists altogether). Corresponding to the improved goal average in Qatar, we can observe a greater number of players in the Qatar roster who managed to accumulate 4 points through assists and goals during the tournament (41 players in 2022 compared to a mere 28 players in 2018), and thus a slightly better performance was needed to have a chance for the golden boot (i.e., award for the most goals) in Qatar. While there are more players included and better figures at the top of the list in Qatar, upon careful examination of the charts, it becomes evident that out-scoring this hypothetical 4-point threshold (such as having 2 goals and 1 assist or 1 goal 3 assists) was attainable for the same number of players in both Russia and Qatar (19 players). This implies that aside from the two exceptional displays in Qatar, Russia boasted a better percentage of top performers at the tournament.

The players' average age shows a noticeable similarity (Qatar:  $x = 26.85$  std dev = 4.145 vs Russia:  $x = 27.50$  std dev = 3.626). However, when examining the main positions of players on the list, the following distinction becomes evident: in Qatar, there were 3 defenders (7.32%), 9 midfielders (21.95%), and 29 forwards (70.73%), whereas in Russia, there were 3 defenders (10.71%), 8 midfielders (28.58%), and 17 forwards (60.71%). On the 2022's list, there were 41 players representing 22 distinct nations, with notable prominence from Portugal (5), England (4), Holland (4), and 3 players each from Brazil, Croatia, and runner-up France. In contrast, the 2018's chart featured 28 players from 18 different nations, with a relatively more balanced representation across countries. The distribution was led by both the host nation (Russia) and runner-up Croatian players, each contributing 3 players. Another important observation is that four players significantly excelled and made substantial contributions to their respective national campaigns: Kylian Mbappe (France), Harry Kane (England), Neymar (Brazil), and Ivan Perisic (Croatia) stand out as individuals who managed to secure spots on both lists.

It becomes evident in both tournaments that the dominant forces were the European national teams (UEFA members), who were trailed by their South American (CONMEBOL) counterparts (confederation – Qatar final place: Pearson  $\chi^2 = 43.922$  Cramer's  $V = 0.518$ ,  $p = .008$  and confederation – Russia final place: Pearson  $\chi^2 = 42.672$  Cramer's  $V = 0.510$ ,  $p = .011$ ). Similarly, it can be inferred that the standout performers mostly emerged from countries with strong football traditions, comprising players engaged in elite championships constantly. Conversely, players who are coming from smaller, 'non-football' nations and/or participating in lower-tier leagues, tend to occupy positions within the middle and lower sections of the table (Table 3-5).

Even upon initial observation, it's apparent that a majority of the players (25 out of 39 – with two players with no post-WC league matches in the season excluded) exhibited better performance at their respective clubs prior to the World Cup (RQ2). It is worth mentioning that many players on the list who earned a move to a different league (i.e., switching team) based on their impressive WC performances among others, seem to have encountered challenges in adapting to their new surroundings based on the GA numbers (find recently transferred players highlighted with a \* after their names in Table 3). Additionally, for certain players competing in prominent multi-competition-interest teams such as Manchester City, Barcelona, and PSG, there is also indication of a possible adverse impact stemming from the tightly packed season calendar on their post-WC form (regardless, their team(s) handled the pressure well, as each of them secured championship titles in their respective domestic leagues).



Table 3. Goal-assist (GA) statistics in transition from club to national team and back to club - WC'22.

	Name	Club (2022/23)	pre-Qatar GA/match	pre-Qatar team position	Qatar WC GA/match	Qatar WC ranking	post-Qatar GA/match	post-Qatar (final) team position	Σ GA/match (club)
1	Kylian Mbappe	Paris Saint-Germain FC	1.00	1	1.43	2	1.05	1	1.03
2	Lionel Messi	Paris Saint-Germain FC	1.31	1	1.43	1	0.79	1	1.00
3	Julian Alvarez	Manchester City FC	0.25	2	0.57	1	0.37	1	0.32
3	Olivier Giroud	AC Milan	0.62	2	0.67	2	0.50	4	0.55
5	Alvaro Morata	Atlético de Madrid	0.43	5	1.00	top16	0.41	3	0.42
5	Goncalo Ramos	S.L. Benfica	1.09	1	1.00	top8	0.74	1	0.87
7	Richarlison	Tottenham Hotspur FC	0.27	4	0.75	top8	0.12	8	0.18
7	Marcus Rashford	Manchester United FC	0.43	5	0.60	top8	0.76	3	0.63
7	Bukayo Saka	Arsenal FC	0.71	1	0.75	top8	0.63	2	0.66
7	Cody Gakpo*	PSV Eindhoven / Liverpool FC	1.50	3	0.60	top8	0.48	5	0.89
7	Enner Valencia	Fenerbahçe SK	1.42	1	1.00	group stage	0.89	2	1.10
12	Harry Kane	Tottenham Hotspur FC	0.87	4	1.00	top8	0.87	8	0.87
12	Bruno Fernandes	Manchester United FC	0.23	5	1.25	top8	0.54	3	0.43
14	Neymar	Paris Saint-Germain FC	1.43	1	1.00	top8	0.67	1	1.20
14	Niclas Füllkrug	SV Werder Bremen	0.86	9	1.00	group stage	0.64	13	0.75
14	Mehdi Taremi	FC Porto	0.85	2	1.00	group stage	0.95	2	0.91
14	Robert Lewandowski	FC Barcelona	1.21	1	0.75	top16	0.65	1	0.88
14	Vincent Aboubakar*	Beşiktaş J.K. / Al-Nassr FC	0.25	2	1.00	group stage	0.95	3	0.74
19	Ferran Torres	FC Barcelona	0.15	1	0.50	top16	0.20	1	0.18
19	Wout Weghorst*	Manchester United FC / Beşiktaş J.K.	0.77	6	0.50	top8	0.15	3	0.39
19	Rafael Leao	AC Milan	0.79	2	0.40	top8	0.67	4	0.71
19	Kai Havertz	Chelsea FC	0.23	10	1.00	group stage	0.23	12	0.23
19	Andrej Kramaric	TSG 1899 Hoffenheim	0.36	11	0.29	3	0.56	12	0.47
19	Giorgian de Arrascaeta*	CR Flamengo	0.54	5	1.00	group stage			0.54
19	Breel Embolo	AS Monaco	0.60	6	0.50	top16	0.29	6	0.44
19	Aleksandar Mitrovic	Fulham FC	0.75	9	0.67	group stage	0.58	10	0.67
19	Youssef En-Nesyri	Sevilla FC	0.00	18	0.29	4	0.43	11	0.29
19	Ritsu Doan	SC Freiburg	0.33	2	0.50	top16	0.33	5	0.33
19	Cho Gue-sung*	Jeonbuk Hyundai Motors / Gimcheon Sangmu	0.73	2	0.50	top16			0.73
19	Salem Al-Dawsari	Al Hilal SFC	0.25	5	0.67	group stage	0.50	3	0.43
19	Mohammed Kudus	AFC Ajax	0.36	2	0.67	group stage	0.56	3	0.47
32	Ivan Perisic	Tottenham Hotspur FC	0.27	4	0.57	3	0.26	8	0.26
33	Vinicius Jr.	Real Madrid CF	0.64	2	0.75	top8	0.58	2	0.61
33	Theo Hernandez	AC Milan	0.31	2	0.50	2	0.16	4	0.22
33	Phil Foden	Manchester City FC	0.71	2	0.75	top8	0.33	1	0.50
33	Denzel Dumfries	FC Internazionale Milano	0.27	4	0.60	top8	0.21	3	0.24
33	Davy Klaassen	AFC Ajax	0.29	2	0.75	top8	0.37	3	0.33
33	Raphaël Guerreiro	Borussia Dortmund	0.25	6	0.75	top8	0.87	2	0.59
33	João Félix*	Chelsea FC / Atlético de Madrid	0.50	5	0.75	top8	0.28	12	0.37
33	Mislav Oršić*	Southampton / Dinamo Zagreb	1.00	1	0.50	3	0.00	20	0.94
33	Christian Pulisic	Chelsea FC	0.15	10	0.75	top16	0.00	12	0.08

Note: players excluded from certain comparison due to either the domestic league finishing pre-WC or being recently transferred.  
Source: own compilation.

In spite of numerous setbacks in form, there were also players who appeared to have profited from the international break. For example, Vincent Aboubakar at his new club (+0.70 GA), Raphaël Guerreiro with Dortmund (+0.62 GA), Youssef En-Nesyri with Sevilla (+0.43 GA), Marcus Rashford and Bruno Fernandes with Manchester United (+0.33 and +0.31 GA) notably elevated their performances significantly for the remainder of the club season. This trend was also evident in terms of club performances: Dortmund ascended from the 6th position before Qatar to nearly the top of the final Bundesliga table (2<sup>nd</sup>), Sevilla experienced a remarkable turnaround, moving from the perilous 18<sup>th</sup> position in La Liga to the 11<sup>th</sup> spot, while Manchester United reclaimed a spot in the Champions League by securing the 3<sup>rd</sup> position in the Premier League (pre-WC ranked 5<sup>th</sup>). The statistical analysis revealed a notable connection between the national team's performance in Qatar and both the pre-Qatar club performance (Pearson Chi<sup>2</sup> = 104.174 Cramer's V = 0.667, p = .002) and post-Qatar club performance (Pearson Chi<sup>2</sup> = 78.991 Cramer's V = 0.567, p = .015). It was observed that a stronger performance by the player's club before the tournament predicted a better national team performance, which in turn contributed to a superior post-tournament finish.

It is also noteworthy to consider another perspective: out of the 41 players on the list, 30 managed to achieve a better goal-assist ratio during the World Cup compared to the entirety of the club season (73.17%). This suggests that, statistically speaking, the overall World Cup performances were generally satisfactory (RQ1), while also underscoring the idea that national and club teams operate within distinct contexts and circumstances (e.g., different goals/coaches/playing styles/teammates/roles within the team).

In the 2022/23 season, European and South American players were not only heavily involved during the Qatar events. Based on the numbers, it becomes apparent that European players were the most frequently utilized throughout the club season ( $x_{\text{matches played}} = 32.31$ ), closely trailed by South American players (28.45) and African players (29.33), with the remaining groups including Asian (26.50) and North American (24.00) players ( $F = 2.187, p = .090$ ). When examining the percentage of possible minutes played, a similar pattern emerges, with Europe leading the rankings ( $x = 68.17\%$ ), followed by South America (56.07%), Africa (55.23%), and Asia (60.61%). Once again, North America (23.77%) ranks lowest in this regard ( $F = 2.220, p = .086$ ). There is also evidence to suggest that players competing in the 'top leagues' (as per the IFFHS ranking) had to participate in more matches during the season ( $F = 3.907, p = .016$ ). On average, players in Tier 1 leagues (Brazil, England, and Spain) played 32.06 matches, compared to 31.00 matches in Tier 2 leagues (Germany, Italy, and France), and 24.50 matches in Tier 4 leagues (Turkey, Saudi Arabia, Japan, and Croatia).

The number of matches (minutes) played tends to exert a significant influence on form, thereby affecting GA statistics. Correspondingly, the SPSS analysis uncovered the following correlations (excluding the trivial ones, such as goals/assists in a given period correlating with GA in the same period) (RQ3):

- Pre-Qatar GA/match: (1) minutes played (Pearson's  $R = 0.416, p = .007$ ), (2) % of possible minutes played (Pearson's  $R = 0.431, p = .005$ ), (3) Qatar goals (Pearson's  $R = 0.372, p = .017$ ), (4) Qatar GA (Pearson's  $R = 0.329, p = .035$ ), (5) Qatar goal/match (Pearson's  $R = 0.371, p = .017$ ), (6) Qatar GA/match (Pearson's  $R = 0.363, p = .020$ ), (7) goals in the second half of the season (Pearson's  $R = 0.365, p = .022$ ), (8) GA in the second half of season (Pearson's  $R = 0.350, p = .029$ ), (9) goal/match in the second half of the season (Pearson's  $R = 0.420, p = .008$ ), (10) GA/match in the second half of the season (Pearson's  $R = 0.427, p = .007$ );
- Qatar GA/match: (1) goal/match in the first half of the season (Pearson's  $R = 0.380, p = .014$ ), (2) GA/match in the first half of the season (Pearson's  $R = 0.363, p = .020$ ), (3) goals in the second half of the season (Pearson's  $R = 0.439, p = .005$ ), (4) assists in the second half of the season (Pearson's  $R = 0.323, p = .045$ ), (5) GA in the second half of the season (Pearson's  $R = 0.511, p = .001$ ), (6) minutes played in the second half of the season (Pearson's  $R = 0.346, p = .031$ ), (7) % of possible minutes played in the second half of the season (Pearson's  $R = 0.350, p = .029$ ), (8) goal/match in the second half of the season (Pearson's  $R = 0.459, p = .003$ ), (9) GA/match in the second half of the season (Pearson's  $R = 0.538, p = .000$ );
- Post-Qatar GA/match: (1) goals in the first half of the season (Pearson's  $R = 0.481, p = .002$ ), (2) GA in the first half of the season (Pearson's  $R = 0.382, p = .016$ ), (3) minutes played in the first half of the season (Pearson's  $R = 0.351, p = .028$ ), (4) % of possible minutes played in the first half of the season (Pearson's  $R = 0.515, p = .001$ ), (5) goal/match in the first half of the season (Pearson's  $R = 0.514, p = .001$ ), (6) GA/match in the first half of the season (Pearson's  $R = 0.427, p = .007$ ), (7) Qatar goals (Pearson's  $R = 0.452, p = .004$ ), (8) Qatar GA (Pearson's  $R = 0.405, p = .010$ ), (9) Qatar matches going to extra time (Pearson's  $R = -0.347, p = .030$ ), (10) Qatar goal/match (Pearson's  $R = 0.487, p = .002$ ), (11) Qatar GA/match (Pearson's  $R = 0.538, p = .000$ ).

These findings underscore a link between a player's performance at the start of the season and their performance throughout the rest of the season, even when considering their performance in Qatar. What is intriguing is that the data suggests players who had to log more minutes (including extra time) in Qatar were more prone to underperform in the second half of the season.

When investigating the reasons for fluctuations in GA throughout the season (RQ2-RQ3), several relationships emerged: (1) Players from different confederations exhibited varied performances post-Qatar compared to pre-Qatar ( $F = 2.829, p = .040$ ) and faced distinct challenges upon returning from Qatar to their respective clubs ( $F = 2.162, p = .094$ ). Categorizing players by their primary positions also yielded interesting differences in GA numbers between Qatar and the entire season ( $F = 4.069, p = .025$ ), as well as when transitioning to represent their national teams in the World Cup ( $F = 4.408, p = .019$ ). Furthermore, disparities were noted among players from different league (tier) rankings ( $F = 2.820, p = .052$ ). Players in more competitive leagues had an advantage at the World Cup compared to those in lower leagues. Surprisingly, players closer to the opponent's goal exhibited a different pattern. Greater distance from the goal also resulted in improved GA numbers in Qatar compared to pre-Qatar club statistics. When considering confederation differences, higher-ranked confederations and their teams and players achieved better results in Qatar compared to the post-Qatar period. However, these players faced challenges in the rest of the season compared to the pre-Qatar phase. Refer to Table 4 for more detailed information on these findings.

Table 4. Factors influencing the GA numbers.

Factors	Group1	N	AVG (X)	Group2	N	AVG (X)
Qatar vs. full season GA/match	League rank Tier1	18	0.3099	Forward	29	0.1087
	League rank Tier2	12	0.1278	Midfielder	9	0.3945
	League rank Tier3	5	0.1110	Defender	3	0.2678
	League rank Tier4	6	-0.2694			
Qatar vs. pre-Qatar GA/match	Forward	29	0.0391			
	Midfielder	9	0.4237			
	Defender	3	0.3419			
Qatar vs. post-Qatar GA/match	UEFA	26	0.2558			
	CONMEBOL	6	0.3474			
	CAF	3	0.0046			
	AFC	3	0.1278			
	CONCACAF	1	0.7500			
post-Qatar vs. Pre-Qatar GA/match	UEFA	26	-0.1449			
	CONMEBOL	6	-0.3171			
	CAF	3	0.4438			
	AFC	3	0.1179			
	CONCACAF	1	-0.1538			

Source: own compilation.

Additionally, the position of the club in the league appears to exert an influence on GA statistics. Specifically, the pre-Qatar league position of the clubs affects all four of the factors mentioned earlier (Qatar vs. full season  $F = 3.090, p = .009$ ; Post-Qatar vs. Pre-Qatar  $F = 2.898, p = .014$ ; Qatar vs. Pre-Qatar  $F = 3.761, p = .003$ ; Qatar vs. Post-Qatar  $F = 2.780, p = .018$ ): teams that held higher positions in the first half of the season encouraged improved player performances in Qatar compared to the full club season and the post-Qatar period. Conversely, players from higher-ranked teams could not keep up the same level of performances

post-Qatar compared to pre-Qatar, and also underperformed in Qatar compared to the pre-Qatar phase. Surprisingly, the analysis did not reveal any significant connection between the age of the players and the changes in their GA throughout the season.

Table 5. Goal-assist (GA) statistics in transition from club to national team - WC'18.

	Name	Club (2017/18)	Club GA/match	pre-Qatar (final) team position	Russia WC GA/match	Russia WC ranking
1	Harry Kane	Tottenham Hotspur FC	0.89	3	1.00	4
2	Antoine Griezmann	Atlético de Madrid	0.88	2	0.86	1
3	Romelu Lukaku	Manchester United FC	0.68	2	0.83	3
4	Denis Cheryshev	Villarreal CF	0.17	5	0.80	top8
4	Cristiano Ronaldo	Real Madrid CF	1.15	3	1.00	top16
4	Kylian Mbappe*	Paris Saint-Germain FC / AS Monaco	0.71	1	0.57	1
7	Artem Dzyuba*	Arsenal Tula / Zenit St. Petersburg	0.40	7	1.00	top8
7	Eden Hazard	Chelsea FC	0.47	5	0.83	3
9	Mario Mandzukic	Juventus FC	0.22	1	0.67	2
9	Ivan Perisic	FC Internazionale Milano	0.59	5	0.57	2
11	Yerry Mina	FC Barcelona	0.20	1	1.00	top16
11	Diego Costa	Atlético de Madrid	0.47	2	0.75	top16
11	Edinson Cavani	Paris Saint-Germain FC	1.09	1	0.75	top8
14	Wahbi Khazri	Stade Rennais FC	0.46	5	1.33	group stage
14	Philippe Coutinho*	FC Barcelona / Liverpool FC	0.72	1	0.80	top8
16	Neymar	Paris Saint-Germain FC	1.60	1	0.60	top8
16	Takashi Inui	SD Eibar	0.21	9	0.75	top16
16	Luis Suarez	FC Barcelona	1.15	1	0.60	top8
16	Luka Modrić	Real Madrid CF	0.27	3	0.43	2
20	Mohamed Salah	Liverpool FC	1.19	4	1.00	group stage
20	Sergio Agüero	Manchester City FC	1.08	1	0.50	top16
20	Ahmed Musa*	CSKA Moscow / Leicester City FC	0.90	3	0.67	group stage
20	Heung-Min Son	Tottenham Hotspur FC	0.49	3	0.67	group stage
20	Mile Jedinak	Aston Villa FC	0.07	4	0.67	group stage
20	Andreas Granqvist	FK Krasnodar	0.10	4	0.40	top8
20	John Stones	Manchester City FC	0.00	1	0.29	4
27	Aleksandr Golovin	CSZKA Moscow	0.33	3	0.75	top8
27	Juan Fernando Quintero*	River Plate / FC Porto	0.23	8	0.75	top16

Note: players excluded from certain comparison because of being transferred mid-season.

Source: own compilation.

In the subsequent stage of the analysis, the connections regarding GA statistics in the 2022/23 football season were examined in relation to the figures from the 2017/18 season. Just as in the case of Qatar, the statistical analysis also unveiled that in the 2018 World Cup in Russia, players with a better team background had a better chance of winning the golden shoe (Qatar ranking – golden shoe ranking: Pearson  $\chi^2 = 87.147$  Cramer's  $V = 0.595$ ,  $p = .003$ , Russia ranking – golden shoe ranking: Pearson  $\chi^2 = 87.794$  Cramer's  $V = 0.723$ ,  $p = .011$  and IFFHS league ranking – golden shoe ranking: Pearson  $\chi^2 = 78.022$  Cramer's  $V = 0.681$ ,  $p = .059$ ). In addition, it is evident in this case that younger teams, comprising younger players, achieved better results in the tournament, as reflected in their final positions (Pearson  $\chi^2 = 23.786$  Cramer's  $V = 0.652$ ,  $p = .022$ ). As was the case in Qatar, the 2018 World Cup in Russia also witnessed the prominence of elite-level players in the tournament. Furthermore, a connection was observed between stronger confederations and higher final placements, as well as a relationship between higher-ranked club leagues and better final standings in Russia (Pearson  $\chi^2 = 52.864$  Cramer's  $V = 0.561$ ,  $p = .035$ ).

When juxtaposing the 2018 table (Table 5) with the 2022 counterpart (Table 3), it becomes evident that akin to the findings in 2022, the majority of players –18 out of 28– achieved better statistics in the World Cup than during the club season (64.29%). While making a direct comparison between the two distinct data sets can be challenging, analysing the average goals/assists per match yields intriguing insights: in the 2018 World Cup, the average GA/match was 0.74, while in the 2022 World Cup, it was 0.75 (RQ1). Conversely, for the 2022/23 season, the average GA/match stood at 0.57, compared to the 0.60 average for the 2017/18 season (RQ4).

According to the findings from SPSS, concerning Russia, the analysis identified the following correlations (excluding the obvious ones, like goals/assists in a specific period correlating with GA in the same period):

- Russia GA/match: (1) matches played in Russia (Pearson's  $R = -0.419$ ,  $p = .027$ ), (2) possible minutes in Russia (Pearson's  $R = -0.409$ ,  $p = .031$ ), minutes played in Russia (Pearson's  $R = -0.384$ ,  $p = .044$ );
- Club season GA/match: % of possible minutes played in the club season (Pearson's  $R = 0.519$ ,  $p = .005$ ), Extra times played in Russia (Pearson's  $R = -0.438$ ,  $p = .020$ ).

In contrast to Qatar, there are fewer correlations among the numbers in the case of Russia. Nevertheless, new patterns emerge, such as a negative relationship between time played in the World Cup and GA in Russia. When examining club season statistics, we observe similarities with Qatar, where minutes played during the season have a positive association with GA numbers, and Russia matches going into extra time have a negative impact on club performances.

While delving into the reasons behind changes in GA during the 2017/18 season, the analysis once again revealed the influential power of confederation and primary playing position. However, this time, no relationship was found concerning league ranking and performance indicators. The analysis demonstrated that confederation had an impact on the GA numbers in Russia, with stronger federations yielding higher GA numbers ( $x_{\text{Europe}} = 4.00$ ,  $x_{\text{South America}} = 3.00$ ,  $x_{\text{Africa}} = 2.67$ ,  $x_{\text{Asia}} = 2.33$ ). Main position was associated with goals ( $F = 10.654$ ,  $p = .001$ ), goal/match ( $F = 13.917$ ,  $p = .001$ ), assists ( $F = 3.353$ ,  $p = .051$ ), GA ( $F = 9.631$ ,  $p = .001$ ) and GA/match ( $F = 2.187$ ,  $p = .090$ ) during the club season and goal/match ( $F = 2.630$ ,  $p = .092$ ) with the national team in Russia. Unlike the 2022/23 club season, in this case, forwards outperformed other positions in terms of both goals and assists, followed by midfielders and then defenders. With the national team, we observe different patterns as well in Russia, where forwards lead the goalscoring chart ( $x = 0.6594$  goal/match), followed by defenders ( $x = 0.5619$ ) and then midfielders ( $x = 0.4476$ ). The most notable thing here is that the main position had a connection with the 'Russia vs. club season GA' numbers ( $F = 3.343$ ,  $p = .052$ ) with players closer to the opponent goal having lower numbers (i.e., worse performance with their clubs).

As we can see, there are numerous analogous trends in the two World Cups (RQ4), beyond the significance of main position and national team federation, also underscoring the importance of an early season form, matches (minutes) played and player performances throughout the season, while also emphasizing the substantial challenges in transitioning between national and club teams. Overall, the data suggest that despite a marginal increase in the average goal contribution in the 2022 tournament (+0.01), there was a slight decrease in club season statistics (-0.03), providing a solid basis for future discussions.

## DISCUSSION AND CONCLUSIONS

It is evident that the present sports landscape is dynamic and rapidly evolving, driven by the ever-growing demand, which places pressure on all parties involved (Wallace and Norton, 2014; Lago-Peñas and Sampaio, 2015; Zouhal et al., 2022; Mićović et al., 2023). The 2022 FIFA World Cup in Qatar serves as a unique illustration of this phenomenon, representing a fresh idea from the Arabian world to establish its presence on the global sports stage. Despite Qatar facing extensive criticism across various realms (e.g., politics, economics, and sports) since being announced as the host (Meza Talavera et al., 2019; Brannagan and Reiche, 2022; Brannagan et al., 2023), surprisingly, there has been limited scrutiny of the tournament's aftermath. This pioneering study enhances the existing body of research in two ways: (1) it introduces a new dimension to the limited pool of studies on club-national team transitions (McCall et al., 2018); while (2) it builds upon and extends the ongoing discussion started by Zouhal et al (2022) predating the Qatar World Cup by presenting fresh post-tournament findings. Additionally, this research provides valuable insights for a wide range of stakeholders, including club owners, (event/club) managers, FIFA members, coaches, and even players as it highlights the challenges inherent in the transition between club and national teams and sheds light on potential scenarios involving a new tournament format. As we can see many things are at stakes at each World Cup, which underscores the significance of creating an environment (i.e., schedule) that caters to all stakeholders, all while maintaining focus on the core element: the pleasure derived from the game itself. This encompasses players delivering outstanding performances without the spectre of injury or other (physical) risks (supply side), alongside ensuring an enjoyable experience for fans (demand side). As per the literature review, the importance of this fundamental coexistence remains vital especially within an increasingly business-focused world (András, 2003; Griszbacher et al., 2022).

The analysis revealed compelling evidence that a congested calendar negatively impacts player performances: the greater number of minutes played (including extra time) was inversely related to a player's goal contribution indicators throughout the 2022/23 season. Correspondingly, the majority of the players (64.10%) exhibited better GA numbers pre-Qatar than post-Qatar (RQ2). This newfound learning underscores the significance of occasional (recovery) breaks in the season calendar, as it becomes evident that players have their own limitations over the long term. It is uncertain how the sports world will change in the future, but one thing is certain, this is a risky game: expanding the number of matches, prolonging extra time, and globetrotting for the show, even if not immediately visible, takes a toll. Professional players are not 'tireless entertaining robots'; they require time to rest. While based on the FIFA database, there were no significant injuries directly attributed to the tournament, with perhaps the exception of Neymar missing 2-3 games during the World Cup, which might have also contributed to the early exit of one of the top favourites, Brazil, the long-term scenario is distinct. As the 2023/24 season commences, we are witnessing an unprecedented injury crisis, with even top clubs boasting extensive player rosters, such as Manchester United, Chelsea, Manchester City, Barcelona, or Real Madrid, facing early-season challenges. As observed, the form at the beginning of the season has a substantial impact on subsequent performances. As Zouhal et al (2022) concluded, coaches, not to mention the fans whose support is essential, aspire to have their players in excellent health and peak (physical) condition for the whole season. As demonstrated by prior research, the integrity of these factors is at risk when players are denied the necessary recovery time, as evidenced by the increase in injuries in leagues without a winter break such as the English Premier League (Ekstrand et al., 2019). In our scenario, the traditional winter break in the 2022/23 season was replaced by the World Cup in Qatar. Transitions between club and national teams are inherently more challenging due to various influencing factors (McCall et al., 2018). As a result, we observed distinct transitions based on the main playing position (in Russia and Qatar), national team federation (in Russia and Qatar), club league tier (in Qatar), and the position in the league (in Qatar) (RQ3-RQ4). Building on these conclusions, given the

multitude of factors at play, to enhance player form, availability and minimize injury rates, it is crucial to establish a positive rapport and clear communication between national team's and the club's medical and technical staff, as well as to engage in proactive planning.

Among the most significant findings, the research results suggest that despite the Qatar tournament having a slightly higher goal average (+0.01) than the one in Russia (RQ1), the club season GA statistics experienced a more substantial decrease (-0.03) compared to the 2017/18 season (RQ4), further substantiating concerns regarding the legacy of Qatar. These findings reinforce the notion that Qatar and the Arab world effectively navigated the contentious tournament and were generally perceived as successful (mainly owing to the players as highlighted by The Washington Post (2022), since 73.17% of them attained improved GA during the World Cup compared to the club season (RQ1), not to mention the remarkable final match (3-3)), as also indicated by the substantial investments and prominent transfers that ensued (such as Cristiano Ronaldo, Karim Benzema, or Neymar moving to Saudi Arabia). However, the legacy of the event, if it can be defined as such, triggered mixed sentiments among a diverse range of fans, practitioners, and theorists (Scharfenort, 2012; Azzali, 2019; Forbes, 2022; Brannagan et al., 2023).

The research indicates that for top players the football calendar (especially the European one: 32.31 league matches played on average per player, while Europe dominating the World Cup as well with 5 spots in the top8 which also results in extra matches) is increasingly crammed due to the demands of the entertainment (business) world, with more and more matches and minutes to be played, there is limited recovery time, and increasing pressure on teams and players. In conjunction with the findings of this research paper, when prominent figures in the football industry, such as Pep Guardiola, who has achieved success coaching teams like Barcelona, Bayern Munich, and currently Manchester City, express sentiments like *"It's too much."* and *"Every year it's getting worse and worse, and it will be getting worse, and I don't know how it's going to end, honestly (...) They are exhausted."*, while UEFA chief of football Zvonimir Boban highlights that *"How often we have spoken critically about the calendar and too many games? We are not listening to players and coaches. It's crazy. It's too much..."* (ESPN, 2023), it is imperative that this issue be treated with the utmost seriousness.

While this paper offers valuable insights with practical and theoretical relevance, it is essential to acknowledge that, akin to most research endeavours, this paper has inherent limitations. To begin with, while goals (and assists) are undeniably crucial statistics that clearly differentiate winners from losers, focusing solely on GA as the foundation for analysis primarily centres on players who predominantly operate in the offensive third of the field, providing us with just a partial glimpse of the overall picture. Using this approach allowed us to evaluate the performances of these top players at the highest echelons, yet there remains potential for additional research in this area. Among others, this metric relies extensively on teamwork, which is a component not entirely reflected in statistics, and as a result, it can display notable fluctuations influenced by diverse factors such as the overall calibre of the team (whether it is a national team or a club), weather conditions (considering the climate in Qatar), or even the element of pure luck. In the future, there is potential to incorporate additional metrics such as player match ratings or the freshly introduced expected goals and assists (xA / xG) to the analysis, which could help bridge the gap and provide a more reliable assessment of individual player performances. Furthermore, given that the 2022 World Cup was the inaugural tournament held during the winter season, we currently have only a single dataset for comparison against the conventional World Cup statistics. This limitation also restricts research opportunities in this regard. Given the dynamic and inherently unpredictable nature of matches, as emphasized by Clemente et al. (2019) among others, there are also apprehensions about the feasibility of effectively comparing different matches and tournaments in the realm of sports. Consequently, in this paper, we chose to confine our comparison to

World Cup and domestic league matches, although there were situations where additional competitions such as the Champions League could have been considered. In an effort to minimize this bias, the two tournaments under examination were deliberately chosen with conditions as closely aligned as possible, such as both incorporating VAR (Video Assistant Referee) technology (Antônio et al., 2021). Additionally, we must also note the certain disparities between national team and club competitions (McCall, 2018; Zouhal et al., 2022). Therefore, further research involving additional metrics, a larger sample size and multiple tournaments is undoubtedly necessary to delve deeper into the subject. This is especially vital given the evident significance of this matter, as indicated by substantial investments for profit, the expanding 'always hungry' fanbase, and the mounting challenges associated with player well-being and performance in the elite sports realm. These points become even more significant with Saudi Arabia slated to host the 2034 men's FIFA World Cup under circumstances very similar to those of Qatar, underscoring the necessity for further research to understand and prepare for the potential challenges. Given that this paper represents a groundbreaking endeavour, it is essential to acknowledge that it cannot comprehensively encompass the entire scope of the legacy of the World Cup in Qatar. Nevertheless, it has effectively accomplished its primary goal of enhancing our limited understanding of the recent World Cup, offering a valuable addition to the literature and sport/event practices, and simultaneously stimulating future research by illuminating essential areas for further investigation in this domain.

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