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# A Form of Unequal Playing Field? Referees and Bias in Officiating

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**Abstract:** Home advantage and officiating biased in sports with subjective decisions are well documented. Subjective decisions have been found to differ between individual referees as each referee responds to crowd size differently. The current study tested if subjective decisions favour certain clubs in the Ghana Premier League (GPL). Using data collected from Eurosport and Goal.com, the total number of subjective decisions (penalties in favour and sending offs against opponents) for 16 clubs in the (GPL) for the 2017/2018 and 2018/2019 seasons were examined. The results showed that some clubs have as high as 5.5 while others have as low as 1.0 means of the total 40.5 subjective decisions. The home advantage in the league was identified by comparing the percentage of total home wins and total away wins for the clubs in the 2013-2019 seasons. A paired sample T-test was conducted to find the difference between home wins vs away wins in the GPL. The result was significant with ( $M=88.33$ ;  $SD=36.90$ ;  $t=5.86$ ;  $p<0.002$ ) supporting the existence of home advantage in the GPL. The total subjective decisions were (68% of penalties scored by home teams and 74% sent offs for away teams). The current study is further hypothesising that although officiating bias in football exists for home teams, some clubs can have more subjective decisions irrespective of whether they are playing at home or away. The Ghana Football Association (GFA) should provide enough data on match days such as game-day attendance on all matches played for future researches to determine the mediating factors that influence subjective decisions in the GPL.

**Keywords:** level-playing field, uncertainty, football, home advantage, officiating bias

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## 1. Introduction

Uncertainty about the outcome of matches in sporting events ensures that teams participate at equal strengths without undue advantage which makes the competitions practicable and creates a competitive balance among participating teams<sup>[1]</sup>. This provides opportunities for sponsors to extend commercial successes in such competitions. Despite some clubs dominating their respective leagues for a few seasons, the commercial success remains intact. For instance, the Italian Serie 'A' and the Germans Bundesliga have produced Juventus and Bayern Munich winning the league title consistently, but the commercial success has remained unchanged. To promote a level playing field, rules that aim at distributing available talents equally among participating teams should be promoted<sup>[2]</sup>. A typical scenario was the introduction of salary caps, player draft rules and ceilings on players' contracts to ensure an equal playing field in Australia and America leagues<sup>[1]</sup>.

In literature, studies on providing a level playing field among teams have focused on the equal distribution of playing talents, participation in sporting activities and distribution of resources<sup>[1,3-4]</sup>. Other researches hypothesised that discrimination is one of the factors resulting in the unequal playing field in sports<sup>[5-6]</sup>. For instance, Kahn<sup>[5]</sup>, asserted that while overt salary is not a major outcome of preference, there is evidence that portrays hiring discrimination, positional segregation and retention discrimination. The conclusion was that professional sport and society have some distance to travel before economic discrimination in sports can be eliminated.

One area that is yet to be examined is whether officiating bias can result in unequal playing field among clubs in league competitions. Football leagues over the world have been characterised by bias officiating which usually leads to home advantage<sup>[7-8]</sup>. Boyko, Boyko and Boyko<sup>[9]</sup>, explained home advantage to include non-sole factors like advantages in rules, familiarity with the team's grounds, the influence of the teeming supporters and stress involved in travelling to other league centres. Boyko et al<sup>[9]</sup> examined 5244 English Premier League results involving 50 referees and identified that home bias varies between referees. They asserted that referees are responsible for some of the observed home advantage in the league and proclaimed that home advantage depends on subjective decision and varies between individuals. However, the

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researchers did not examine whether subjective decisions favour certain clubs although they asserted that crowd noise can be an intimidating factor influencing individual referees' decisions.

Individual referees' decisions and home advantage are influenced by the number of spectators at the stadia. Nevill, Newell and Gale<sup>[10]</sup> used the end of season results for eight major divisions in the Scottish and English Leagues for 1992-1993. Findings from the study confirmed that the existence of home advantage across the various leagues varies significantly across the divisions. Sending off and penalties scored-two game-changing factors were further examined to determine the differences in the findings and revealed that home sending offs were low for divisions with large crowds compared with no difference for divisions with smaller crowds. Additionally, the percentage of penalties scored by home sides with large crowds was larger than divisions with smaller crowds. The researchers concluded with the claim that either large crowds provoked away team into playing recklessly or influence the referee to believe that an away player has committed many fouls<sup>[10]</sup>. Considering this, it could be analysed that referees are more likely to favour home teams. However, league matches are played on a home and away basis so, if referees decisions favour a certain club for two seasons, then it could create some level of bias that can influence positions of clubs in leagues.

Football creates an opportunity to examine home advantage in leagues for several factors. Researches by<sup>[7-10]</sup> highlighted the existence of home advantage in different football leagues. The GPL provides an example of studies to examine the existence of home advantages. The league is made up of teams that played matches almost at empty stadia with most of the teams concentrated in places that are not far from each other. However, instances, where players and team officials have attacked referees and accused them of bias officiating, have been rampant. Some of the referees have lost their lives through an attack by fans in the Ghanaian league<sup>[11]</sup>. Anecdotal evidence also suggests that club owners complain about poor officiating as the cause of the poor performance of clubs leading to relegation.

Bashiru and Opoku<sup>[12]</sup>, opined that football fans are dissatisfied with officiating bias after identifying that previous pieces of literature on the topic have focused primarily on the impact of bias and match outcomes. The study further revealed the existence of home advantage in the league and how matches are won based on referees' decisions which also affect game-day attendance. However, the focus was on fans perception and as a result, no secondary data from the GPL were used to support the findings. Data containing information like home wins, away wins, sent offs and penalty scored should have been important information to support the existence of home advantage and biased officiating revealed by the study. Agyei<sup>[13]</sup> supported the existence of home advantage in the GPL after interviewing seven referees to examine what influences them when officiating home games and identified crowd aggression, play conditions, team reception, geographical location as some of the factors. Notwithstanding, no data from matchday reports were used to assess if officiating bias exists in the GPL. Considering this, the present study examined the existence of home advantage in the league using data from matchday reports in the GPL.

To examine if officiating bias results in a form of the unequal playing field, the present study examined home and away wins, number of penalties awarded for both home and away teams, number of send-offs-home and away basis, and number of penalties in favour of individual clubs and opponent sent-offs in the GPL seasons (2017/2018, 2018/2019). If officiating bias leads to home advantage based on each referee's response to crowd pressure with the outcome depending on specific referees<sup>[9]</sup>, then the outcome is that specific referees' favour specific teams. This is a clear case of officiating bias resulting in unequal playing field because if referees officiate with equal favouritism, then this issue will be irrelevant for further analysis. Notwithstanding, if referees' decisions favour certain clubs, then this factor is relevant for creating unequal playing field effect in the GPL as it can influence positions of teams on the league table.

Therefore, the current study tested if subjective decisions favour certain clubs in the GPL resulting in an unequal playing field. The study also topped up knowledge by confirming the existence of home advantage in the GPL and identified decisions by officiating officials that demonstrate officiating bias using subjective decisions.

## 2. Method

Data retrieved from [14] and [15] were used for the study as the GFA website does not have such information. Club name, final score, the total number of red cards and the number of penalties converted by each club were recorded for each match. To determine if home advantage exists in the league, the results of GPL matches from the 2013/2014 season to the 2018/2019 season were analysed. However, data from 2013/2014 to 2016/2017 did not contain information like the number of sending offs and penalties converted. The data were double-checked with other sites to ensure accuracy. The home advantage was defined as the differences between the total number of home wins and the total number of away wins similar to Nevill et al.<sup>[10]</sup>; but contrary to Boyko et al.<sup>[9]</sup>, and Ukelbach and Memmert<sup>[16]</sup> who defined home advantage as goals scored by the home minus goals scored by the away. This was done because a goal scored do not guarantee a

win for a home team as the game can end in a draw or lose. Nevill et al.<sup>[10]</sup> hypothesised that using drawn games could be problematic since there could be an instance in a league where every match was a draw except for two games that recorded one home win and one away win. In the GPL, since three points are awarded for a win, one point for a draw and zero points for a loss, drawn games were not included in the present study. Besides, the study was intended to determine home advantage and once drawn games did not go in favour of a home or away team, they were excluded from further analysis<sup>[7-10]</sup>.

To determine if the behaviour of officiating officials results in home advantages, penalty kicks and send-offs (red cards) from the 2017/2018 to 2018/2019 in the GPL were examined. The two are crucial decisions that are likely to influence the outcome of matches. For instance, if a penalty awarded is converted, it is likely to change the score of the match, whereas, the sending off of a player is likely to give a numerical advantage to a particular team<sup>[9-10]</sup>. To test the influence of subjective decisions in favour of certain teams, the total number of penalties scored by a team and the total number of opponents sent offs were added for the two seasons 2017/2018 and 2018/2019 in the GPL. Yellow cards were not considered because it does not give a numerical advantage to any of the teams although referees have the mandate with when to issue cautions or not<sup>[17]</sup>. The mean of the clubs' subjective decisions was compared to determine individual teams' advantage in the league for the two seasons. The formula used was penalties scored by a team plus opponent sent offs divided by two. The two represented the total number of subjective decisions used in the study-penalties scored and opponents sent-off. The results of the 2017/2018 and 2018/2019 league competitions were used because none of the teams were relegated during the two seasons as football was in a normalisation process. This provided an opportunity for fair assessment because the clubs played more than a home and away match.

### 3. Results

#### 3.1 Officiating bias in favour of certain clubs in the league

To determine subjective decisions in favour of individual clubs in the league, the means of the penalties scored and opponent sent-off were calculated. This was done by dividing the total number of subjective decisions-penalties scored and opponents sent-off by two. Two represent the number of subjective decisions used in the present study (see table 1).

**Table 1. Subjective Decisions in Favour of Clubs in the GPL 2017/2018-2018/2019 Season**

Clubs	Penalties Scored	Opponents sent-off	Total	Mean
Hearts	6	4	10	5.0
Ash Gold	5	1	6	3.0
Aduana	4	3	7	3.5
Kotoko	4	2	6	3.0
Bechem Utd	2	3	5	2.5
Bechem Chelsea	0	2	2	1.0
Inter Allies	3	1	4	2.0
Elmina Sharks	3	2	5	2.5
Medeama	8	3	11	5.5
Dwarfs	4	1	5	2.5
Liberty	4	1	5	2.5
All Stars	2	2	4	2.0
Karela United	6	0	6	3.0
Eleven Wonders	2	1	3	1.5
Dreams F.C.	3	1	4	2.0
WAFA	2	1	3	1.5
Total	58	28	86	40.5

#### 3.2 Home advantage

Table 2 analyses the frequency of home wins, away wins and draws for the Ghanaian Premier League for the

2013/2014 to 2018/2019 season involving a total of 1154 matches. The overall home wins confirming home advantage was 80% (excluding home draws). A paired sample T-test was conducted to find the difference between home wins vs away wins in the GPL. The result was significant with (M=88.33; SD=36.90; t=5.86; p<0.002) supporting the existence of home advantage in the GPL.

**Table 2. Home wins, away wins and Draws for the GPL from 2013/2014-2018/2019 seasons**

Season	Home wins (%)	Away win (%)	Draws	Total Played
2013/2014	143(73)	43(27)	54	240
2014/2015	158(87)	24(13)	58	240
2015/2016	142(81)	33(19)	65	240
2016/2017	142(77)	42(23)	56	240
2017/2018	57(83)	12(17)	27	96
2018/2019	58(78)	16(22)	24	98
Total	700(80)	170(20)	284	1154

### 3.3 Subjective decisions

To examine subjective decisions by referees associated with home advantage, the number of penalties awarded and sending offs were recorded for the 2018/2019 and 2017/2018 seasons. These data were used because the number of send-offs and penalties awarded for the previous years were not available. The results showed that home teams were awarded more penalties and attracted fewer send-offs than away teams (see table 3).

**Table 3. penalties and send-offs for the 2017/2018 and 2018/2019 season**

Season	Penalties		Send-offs	
	Home	Away	Home	Away
2017/2018	21	7	6	11
2018/2019	19	11	3	8
Total	40(68)	18(32%)	9(26%)	19(74%)

## 4. Discussion

The results from the present study revealed that some clubs in the GPL have higher subjective decisions than others. If referees favour certain teams, then this factor provides evidence for the existence of an unequal playing field effect in leagues. The GPL has encountered numerous occasions where clubs have complained bitterly about poor officiating and unfair treatment. For instance, the famous Anas Aremeyaw Anas number 12 documentary, exposed officials of the GFA and match officials influenced with cash either to fix matches or bend the rules in favour of certain teams. Similarly, club officials have blamed referees for the club's inability to win matches in the league-leading to poor performances and at times demotion. In an instance where security men at the stadia are unable to control irate fans, referees are beaten mercilessly. The just ended normalisation tournament recorded many of such instances. A female referee was mercilessly beaten for refusing to add more time after the match<sup>[18]</sup>. The performance of referees in Ghana and the behaviour of football administrators might have contributed to this problem. Ghanaian referees have performed abysmally not only at the local level but internationally as well. This was evident when a Ghanaian referee was ban by FIFA for life for match manipulation in a world cup qualifier<sup>[19]</sup>. CAF also slapped a ban on a total of 8 Ghanaian referees with 7 receiving 10 years each and 1 banned for life<sup>[20]</sup>. Similarly, most of the football administrators owned clubs in Ghana and can influence referees to officiate on behalf of their teams without sanctions. Data indicating match day attendances which determine crowd density and crowd size were not available. This could have been a piece of important information to determine the number of fans who attended matches involving teams with the highest number of subjective decisions in their favour<sup>[10,21]</sup>. To assist to get accurate and detailed data for such kinds of studies, football associations and administrators should record and keep data of matches in the league. This can even help to determine venues where most of the officiating bias took place, teams with the highest number of subjective decisions and individual referees with the highest number of subjective decisions as each referee's respond to crowd pressure differently with the outcome depending on specific

referees<sup>[9]</sup>. Besides, there should be laws excluding club owners from becoming members of the FA in the country as well as improvement in referees' education in Ghana.

The current results have revealed the existence of a home advantage in the GPL. This is consistent with researches by<sup>[9-10]</sup>. Nevill et al.<sup>[10]</sup> hypothesised two further explanations for their findings; the first was either large crowd size was able to provoke the away players to play aggressively or influence referees to conceive that an away player has committed an offense. Boyko et al.<sup>[9]</sup> analysed that the relationship between crowd size and the home advantage was no longer significant after controlling for the home team, implying that the relationship between them is not a straightforward as often anticipated. This is supported by the current study which showed as high as 80% of home advantage despite the GPL recording as low as 135,223 out of an expected number of 1,160,000 in the 2011-2012 season representing 11.7% of total attendances for the year<sup>[22]</sup>.

The current results analysed two means by which referees influenced games. Referees recorded higher percentages for the two significant game-changing factors-penalties and sending offs. Since certain clubs benefit more from these decisions by different officiating officials, then it could be either; referees were influenced to officiate in favour of certain teams in the league in the form of bribes or some clubs have large followers who are always present during matches irrespective of either the club is playing at home or away. However, crowd noise is a key factor in a referee's decision to award most of the subjective decisions-showing a card or awarding a penalty<sup>[16]</sup>. Notwithstanding this was not the case of the GPL as such data were not available. Many coaches and team officials have complained about referees' subjective decisions against their clubs in the following ways; either a goal scored is disallowed, a dubious penalty is awarded against them or their player was sent-off through media reportage. This creates an impression that winners of the league can be predetermined at times and create an unequal playing field effect in the GPL. The findings should have been robust if more data were provided for the league season like crowd size, venues where referees were attacked and venues where obvious goals were disallowed. The use of Video Assistant Referees (VARs) seems to fit well in this scenario, but most leagues cannot afford them especially in Africa. Therefore, in such places, subjective decisions by officiating officials to manipulate matches will continue to be operational. Another way of eradicating the unequal playing field canker arising from referees' subjective decisions is to introduce decisions after matches. This will allow authorities to watch decisions by referees that seem controversial, call for replays when necessary, or sanction referees accordingly. For instance, CAF asked for the replay of the champions league final after no VAR was produced at the match venue and a controversial decision by the referee could not warrant play to continue. An in-depth examination of subjective decisions by officials using VARs and those without VARs will assist to assess if decision after games should be implemented to provide an equal playing field in the later.

The present study was not without limitations. The study failed to provide information such as game day attendance and the number of yellow cards that serve as mediating factors influencing subjective decisions of referees in previous studies. Again, the information available for the present study were not enough to validate the officiating bias effect in the GPL as data for at least five years should have shown the consistency of officiating bias in favour of certain clubs. Despite all these challenges, the two seasons have shown how referees' subjective decisions have favoured certain clubs than others in the GPL resulting in a form of the unequal playing field and the need for the GFA to keep enough data for future studies of this kind.

In conclusion, the present study presents a piece of valuable information on officiating biases creating an unequal playing field among teams in the GPL. The present study is adding to previous researches that referees judgement although are influenced by crowd size with decisions differ by each referee<sup>[9,16]</sup> the decisions taken can favour certain clubs in leagues creating an unequal playing field. The current study is further adding that although officiating bias in football exists for home teams, certain clubs can be favoured irrespective of whether they are playing at home or away. Therefore, referees play key roles in determining winners of leagues and can contribute to the promotion and demotion of teams. Once GFA officials do not have information like crowd size and names of referees who officiated matches with most of the subjective decisions, it will be very difficult to access performances of referees who did not perform well in the season. Considering this, football associations need to keep data on all matches played to examine the effects of subjective decisions on leagues.

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