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ORIGINAL ARTICLE

Biases in elections with well-informed voters: Evidence from public voting for football awards

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Abstract

Objectives: How much does group membership influence voting behavior? This article adds to existing work by considering a novel context where voting is public and voters are well-informed.

Methods: The article analyzes public votes in a prominent award for the best football player in the world. It uses ordered probit regressions to assess the extent to which votes by players, coaches, and journalists are related to national, regional, cultural, racial, and religious affinities between voters and candidates controlling for measures of player performance and celebrity.

Results: The estimates indicate that while player performance does matter, a number of group-based characteristics continue to influence voting. Some of these effects appear to be rooted in incentives—a tendency to vote for co-nationals and teammates—but others—such as a tendency to vote based on geographical, racial, and religious similarities—are rooted more in group affinities.

Conclusions: The analysis provides relatively strong support for the group-based theory of democracy championed by Achen and Bartels as opposed to a theory of democracy founded on individual rational choice. The specific case considered suggests that more attention should be given to the composition of juries that choose the winners of prizes.

KEYWORDS
awards, Ballon d'Or, bias, football, prejudice, voting

How much of voting in democratic elections follows a rational calculus and how much is subject to biases? This question is central to assessments of democracy, which is founded on free elections. Achen and Bartels's (2016) recent book *Democracy for Realists* makes the case that voters have difficulty acting in rational ways. Instead, they fall prey to biases like myopia, concern with irrelevant events, and motivated reasoning. Most severe, they argue, is the influence of group membership on voting behavior. Indeed, they argue that a group-based account of democracy, where voters' group identities influence their behavior, is a more accurate account of the way that democracy actually works.

While Achen and Bartels (2016) make a powerful case for the centrality of these biases, the evidence for this perspective is lacking in two ways that we remedy in this article. First, most studies focus on political elections that feature two characteristics that might encourage group-based biases. These elections typically take place in a low-information environment. A hope of many observers is that biases would disappear or at least lessen if voters were better-informed, and some evidence points in this direction (Caplan 2007; Lau and Redlawsk 2006). Further, modern political elections are conducted with secret ballots. Voters can thus indulge their prejudices without any social censure. Relaxing these conditions by considering situations where voters are well-informed and vote publicly might diminish some biases, although they could also exacerbate other biases if voters are held accountable by particular groups for their public votes. Indeed, this was the reason for the introduction of the secret ballot.

Second, much of the evidence for group behavior does not rely on the actual individual-level decisions of voters. The reason is the use of the secret ballot that we just mentioned. As a result, most studies of elections rely on aggregate vote totals, self-reports of vote choices, or artificial elections conducted as part of experiments, each of which introduces methodological difficulties. Only a handful of works have managed to isolate real-life situations where the identities of all the participants can be linked to their votes.

This article remedies both of these problems. It isolates a case where voters are experts in the subject matter and are exposed to social censure for their actions. Further, the public nature of voting means that it is possible to link voters and choices. The case is one of the most prominent awards in the sports world, the Ballon d'Or/FIFA (International Federation of Association Football) Men's Player of the Year, which is awarded to the best male football player in the world. The individual votes for these awards have been made public from 2013 to 2019 and include voters who are players, coaches, and journalists, all of whom are presumably well-informed about football. Thus, they allow a direct examination of the effect of identities on voting in a situation where voters might be less likely to vote based on identities. If voters in a situation such as this still succumb to group-based biases, then we might be particularly skeptical of the ability of ordinary people to vote well.

Our analysis finds that even though measures of player quality play a dominant role, votes for these awards are indeed subject to a number of biases related to group membership. In particular, voters are more likely to select candidates with whom they share a home country, a language, and a colonial heritage. More problematic given football's history of racism may be the fact that voters were more likely to vote for those of similar race and religion, though we did not find explicit bias against black or Muslim players in aggregate. Further, rather than focusing only on player performance, voters tend to give considerable weight to a player's celebrity and their team's success in prominent international competitions. In sum, even experts in a subject area may vote in ways that do not fit classic conceptions of proper electoral behavior.

THEORY

Standard studies of voting behavior focus on secret ballot elections for political office. These sorts of elections provide a best-case scenario for voters to indulge their personal prejudices. Secrecy means that they do not need to hide any socially undesirable preferences like racism or sexism. Meanwhile, typical political elections are low information affairs for reasons that Downs outlined several decades ago.

A common result is then the sort of group-based voting that Achen and Bartels identified. In particular, voters may favor those perceived as similar and against those perceived as different. This is explained by

TABLE 1 Types of elections

	Secret ballot	Public ballot
Low information	Typical political elections	Online reviews
High information	Certain corporate board votes	Ballon d'Or/FIFA and some similar awards, legislative voting

Tajfel's (1981) social identity theory, which posits that individuals base part of their identity on membership in groups. Such in-group bias can be benign, but it can also lead to more invidious prejudice or discrimination against out-group members (Allport et al. 1954). Many works thus distinguish between in-group bias and out-group prejudice (Kinder and Kam 2010).

If we alter the typical conditions, however, the voting calculus may change. The lower right quadrant in Table 1 shows another sort of election with public voting and more informed voters. This is exactly the kind of situation that we have isolated with voting for the world's best footballer. Individual votes are a matter of public record (and sometimes discussed in the media) and the voters are experts, whether players, coaches, or journalists. This may lead to systematic changes in the voting calculus.

Public voting may be subject to social desirability bias. This is the tendency of survey respondents to provide answers that are more socially acceptable (Callegaro 2008). Individuals do not want to be seen as holding undesirable views. In the case that we consider here, biases against particular races or religious groups are commonly deemed socially unacceptable and might be avoided when voting is public. Indeed, the governing bodies of football have conducted large campaigns against racism and prejudice in recent years.

However, public voting could also provide other incentives, particularly disapproval from co-nationals or teammates who favor a particular in-group. Consider the three types of voters in our data: national team captains, national team coaches, and journalists. Players and coaches may feel obligations towards teammates or worry about harming team morale and endangering their position if they do not support team members and co-nationals. Journalists may see their access to players and coaches limited and face disfavor from readers for voting against preferred groups, though all of these pressures apply to only a limited number of voters connected to the small pool of candidates. However, there may also be a backlash from the broader public or elite opinion for ignoring clear facts and we discuss below one of these cases involving Lionel Messi.

More informed voters may also avoid group-based biases. Althaus (2003) shows that becoming informed about an issue produces different and in some cases more enlightened preferences. Lau and Redlawsk (2006) find that political knowledge and political motivation are closely connected to the ability to vote correctly, that is to say, in accordance with the voter's values and interests. Caplan (2007) goes further and argues that more educated individuals are more likely to hold correct beliefs in the sense of corresponding to expert opinion. The voters that we consider in this article—star football players, national team coaches, and sports journalists—could all be considered experts in the domain where they are voting, though those closer to the center of top-flight football may be more informed than others.

The public nature of voting and the informedness of voters may combine to attenuate some standard biases, for example, against racial and religious minorities. We thus consider FIFA/Ballon d'Or voting to be a harder case for the group-based theory of voting, though it may also lead to other biases, such as in favor of one's country or teammates.

Existing work on awards voting has nevertheless found at least three sources of bias. One, found in work on Olympic judging, is a geopolitical bias—a tendency to vote excessively in favor of co-nationals and allies and against rivals (Sala et al. 2007). The most persistent geopolitical effect is the "home country" bias.[1] Favoritism toward allies and discrimination against enemies has, however, declined from its Cold War peak.

[1] For this reason, Olympic judges are sometimes prohibited from judging co-nationals.

Cultural biases have been found in voting for the Eurovision award, a pop music contest between representatives of European nations. Several studies have documented that jury members tended to vote for performers with cultural and linguistic similarities (Ginsburgh and Noury 2008) or those closer to the East/West axis or with similar religious traditions (Spierdijk and Vellekoop 2009), although in both cases, the size of the biases was relatively small, compared to the quality of the acts.

Finally, racial bias has been uncovered in a large number of studies spanning survey research and experimental voting games, particularly with respect to blacks in the United States (Kinder 2013). In a case analogous to the present study, Kopkin (2019) showed evidence of racial bias in voting for the Heisman trophy, a prominent award for American football players at the university level. He found that non-black voters were more likely to vote for non-black players, and this bias had a significant effect on the overall results.

A separate sort of bias, though not typically analyzed as such, is that in favor of celebrities. Anderson et al. (2019) analyze the same football award as the present article (although they only consider the aggregate results, not individual voting). They find that voting in the Ballon d'Or has become more celebrity-dominated over time. The winners have increasingly been attacking (offensive) players and players from the very best leagues and clubs. The voting has thus come to resemble a winner-take-all market where celebrities are advantaged (Frank and Cook 1995; Rosen 1981). Such familiarity biases are known in the political election literature as well (Kam and Zechmeister 2013; Zajonc 1968). This might be explained as a result of better information or a desire to emulate the more successful (Heinrich 2017).

HYPOTHESES

As in other works on award voting, our main expectation is that voters base their votes on *the quality of the candidates* (H1). The criteria for quality, however, are not strictly objective. Voters are instructed to choose players according to their "on-field performance and overall behaviour on and off the pitch" that admits multiple interpretations. Nevertheless, in contrast to awards for artistic performance, some external measures of player quality do exist, both objective ones based on statistics and subjective ones based on other observers. We can thus hypothesize that voters will vote according to these measures of quality, although they may emphasize different aspects.

Since football is a team sport, it may be difficult for voters to isolate the contribution of an individual player. Alchian and Demsetz (1972) argue that "with team production it is difficult…to either define or determine each individual's contribution" since the team production function (in this case wins and other outcomes) is not separable. Similarly, one aspect of player performance is their ability to improve the play of their teammates. Voters may thus factor *team success* into their votes either as an additional proxy for, or indicator of, player contribution (H2). Further, voters may see performance on the biggest stage—that is, important playoff matches against top competition—as the best indicator of a player's ability. There are, however, difficulties in using team success for this purpose since it does not necessarily control for the quality of the player's teammates.

For voters who are not intimately familiar with the overall performance of all the candidates, *the popularity or celebrity of players* may be used as a voting heuristic (H3). Indeed, Anderson et al. (2019) point to the increasing celebritization and winner-take-all aspect of the Ballon d'Or, which in recent years means that players from smaller leagues and clubs receive fewer votes than in the past. This trend may be rooted in the increasing financial might of the prominent leagues and clubs or in the internationalization of media (Kuper and Szymanski 2009). In any case, players who are recognized celebrities may receive more votes than those with less of a public profile.

While these factors refer to the "performance" of players writ large, votes may also be determined by social and identity links between voters and candidates. These are the sources of bias that we wish to explore in this article. As we suggested in the theory section, voters may be more likely to vote for candidates with whom they share group characteristics.

A standard hypothesis in the literature refers to *home country bias* (H4). This means that voters are more likely to vote for candidates from their home country.[2] This may be due to greater familiarity with these players, but it may also reflect social pressures. Such pressures may be particularly severe for players and coaches who are chosen as representatives of their national teams and may feel compelled to vote for other members of their national team in order to preserve morale in the clubhouse. To give a concrete example, in 2012, the Argentinian Lionel Messi was asked to justify his ballot that included one national teammate and two teammates from his club, Barcelona, but not Cristiano Ronaldo, who is widely acknowledged to be one of the best players in the world. Messi replied that he did consider Ronaldo one of the three best players in the world but that he felt obligated to vote for his national and club teammates (Radicella 2013). This bias, however, applies to only the limited number of voters connected to the approximately two dozen candidates.

Significant literatures have demonstrated racial (and to a lesser extent religious) biases in voting. In political elections, voters are more likely to vote for candidates of the same race and religion. This can be a result of conscious or unconscious bigotry or as a result of familiarity. Kuper and Szymanski (2009) demonstrate racial bias even among football managers who have strong incentives to choose the best players. Given the history of racism in football as well as the prominence of anti-Muslim attitudes in Europe, we investigated whether voters from countries with larger *Afrodescendant populations were more likely to vote for players with African roots* (H5) and whether voters from *predominantly Muslim countries were more likely to vote for candidates who identified as Muslim* (H6).[3]

Other forms of similarity may also affect voting. Tajfel's minimal group experiments showed that even individuals randomly assigned to groups and deriving no benefit from favoring their group still favored fellow members. Most individuals belong to many potential groups, and it is a priori uncertain which of these identities will be triggered in a particular situation. We thus considered several other potential identities that were chosen because they are not considered socially undesirable like racial and religious prejudice.

Specifically, we proposed that *geographic similarity* (H7), *cultural similarity* (H8), *political similarity* (H9), and *economic similarity* (H10) could affect voting. Geographic similarity refers to the physical distance of the voters' and candidates' home countries as well as whether voters and candidates come from the same region. Cultural similarity means that voters and candidates are similar in terms of language or general culture. Political similarity means that the voter and the candidate come from countries with similar political systems or allied with each other on questions of international politics. Finally, economic similarity means similarity in economic development in a broad sense.

Most of these forms of similarity have not been studied before because of the lack of situations where voters and candidates represent different countries and cultural traditions.[4] An exception is work on voting in the U.N. General Assembly where Voeten (2000, also Bailey and Voeten 2018) finds voting can mostly be explained along a single dimension that pits Western countries on one side and a "counterhegemonic" bloc on the other side. Democracy and wealth further help to explain differences in U.N. voting. Voters for sports awards, however, are much less constrained than governments, yielding the possibility for more influences on voting.

As we suggested above, the power of these various influences might *vary across types of voters* (H11). One salient difference is that the voters in our data are players, coaches, and members of the media. Though each is a representative of a FIFA-member country, they may each face different pressures to vote for those similar to them. Coaches may be under particular pressure to preserve morale in their teams in order to hold their jobs, while players could be cross-pressured between their co-nationals and club teammates. A second source of heterogeneity is information. We might expect voters who are less informed and

[2] While we presume that players and journalists hail from the country that they represent, coaches may have a different home country. We consider both possibilities.

[3] We focus on the demographics of the voter's country because we were not able to obtain precise information about the race or religion of all the individual voters.

[4] Work on the Eurovision contest and the Olympics focus on a limited group of wealthy nations.

less experienced to succumb more to the biases we describe in H3–H10. This could include voters from countries whose football traditions are weaker or who are farther from the location of the candidates' clubs in Europe.

THE AWARDS

To test these hypotheses, we analyze individual votes for the FIFA Ballon d'Or (2013–2016) and the Best FIFA Men's Player (2017–2019). These are the most prominent awards for the most popular sport in the world. Their announcement is widely followed by football fans and even casual observers, and unusually among major sporting awards, the voting is public with each voter linked to their votes.

The Ballon d'Or was founded by the magazine *France Football* in 1956, while FIFA, the governing body of international football, has given a prize to the best men's player under various names since 1991. The FIFA Ballon d'Or was the result of a 2010 merger between the Ballon d'Or and the FIFA World Player of the Year award. This partnership lasted through 2016, with data covering the years 2013 through 2016 available from the FIFA website. After 2016 the awards separated, and the most recent data only covers the Best FIFA Men's Player award.[5] Therefore, we make use of 7 years of award data (2013–2019) that were retrieved from the FIFA website.

DATA

Summary statistics for all the variables in our data set can be found in Table 2. We considered several measures of player quality. First, we added statistical data on player performance from Football Reference (fbref.com). These included games played, minutes per game, goals per 90 min, assists per 90 min, additional shots on target per 90 min, fouls per 90 min, cards per 90 min, and total years played in a Tier 1 league.[8] We disaggregated each of these into domestic league performance in the current year,[9] Champions League performance in the current year, domestic league performance for the player's entire career in a Tier 1 league, and Champions League performance for the player's entire career in a Tier 1 league.[10,11] In addition, we included the player's overall score from EA Sports's FIFA video game for the following year (thus, FIFA 2020 is based on the 2018–2019 season). EA Sports takes considerable care in assigning and updating these scores each season and includes both advanced statistics and subjective scouting, though it is possible that these scores included some of the biases that we intend to investigate (Lindberg 2016).

We also added data on the performance of the players' clubs and national teams. For the club, we included their final rank in their domestic league, their final ranking in the Champions League, and their FIFA club ranking. In all cases, we took the reciprocal of the ranking and assigned a zero if the club or team did not qualify for the Champions League.[12] We also included the national team's last World Cup ranking (again the reciprocal) and an indicator variable for whether a World Cup was held in that year as

[5] The Ballon d'Or has returned to its tradition of polling only journalists.

[8] Goalkeepers were assigned zeroes for the main offensive categories. An indicator variable for goalkeeper, however, should take into account any bonus or penalty for their distinct position. There were only nine goalkeepers among the 136 candidates.

[9] The football season in Europe lasts from September to June. The current year thus includes this period. Voting took place in September and October following the season.

[10] In cases where players did not have current domestic league statistics (1/136; Neymar 2013) or prior domestic league statistics (2/136; Neymar 2013 and 2014) or their teams did not qualify for the Champions Leagues (15/136), they were assigned zeroes for on-field statistics and assigned a situation-specific indicator variable.

[11] The Champions' League is a playoff competition for the best clubs in Europe. Given that virtually all of the candidates played in European leagues, all of them had the opportunity to participate in this competition.

[12] Thus, a first-place finish in the domestic league is assigned 1, a second-place finish one-half, and so forth. For international competitions, a semifinal loss would be counted as one-fourth, a quarterfinals loss as one-third, and so forth.

TABLE 2 Summary statistics

Variable	Mean	Std. dev.	Variable	Mean	Std. dev.
(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Player characteristics					
Percent of Vote Points	0.0515	0.0876	*Average Color Palette Score*	3.7059	1.8499
FIFA Rating	88.2500	2.7722	*Fraction Muslim*	0.1544	0.3416
Years of Tier 1 Experience	8.9118	3.8345	*Adjusted Google Trends Rating*	16.5820	25.9116
Fraction Afrodescendant	0.1471	0.3555	*1/Marketability Rating*	0.0343	0.1200
Panel B. Player league			**Panel C. Player position**		
Bundesliga	0.1912	0.3947	*Goalkeeper*	0.0662	0.2495
Dutch Eredivisie	0.0147	0.1208	*Defender*	0.0588	0.2362
La Liga	0.4191	0.4952	*Defender/Midfielder*	0.0441	0.2061
Ligue 1	0.0588	0.2362	*Midfielder*	0.2500	0.4346
Premier League	0.2353	0.4258	*Forward/Midfielder*	0.3897	0.4895
Serie A	0.0809	0.2737	*Forward*	0.1912	0.3947
Panel D. Player national team federation					
CAF	0.0588	0.2362	*CONMEBOL*	0.2426	0.4303
CONCACAF	0.0074	0.0857	*UEFA*	0.6912	0.4637
Panel E. Player domestic league performance			**Panel F. Player champions league cup performance**		
Games	31.0441	4.9976	*Games*	8.8162	3.7142
Mins Per Game	80.8931	9.9174	*Mins Per Game*	74.4035	27.3034
Goals Per 90 Mins	0.4837	0.3886	*Goals Per 90 Mins*	0.3605	0.3824
Assists Per 90 Mins	0.2464	0.1695	*Assists Per 90 Mins*	0.1948	0.1973
Addl. Shots on Target Per 90 Mins	0.8001	0.5736	*Addl. Shots on Target Per 90 Mins*	0.7177	0.6782
Fouls Per 90 Mins	0.9281	0.5405	*Fouls Per 90 Mins*	0.8667	0.6598
Cards Per 90 Mins	0.1322	0.1073	*Cards Per 90 Mins*	0.1287	0.1408
Panel G. Player prior domestic league performance			**Panel H. Player prior champions league cup performance**		
Average Games	26.8276	5.7447	*Average Games*	7.4553	2.7485
Mins Per Game	75.0502	11.8363	*Mins Per Game*	71.7267	23.3761
Goals Per 90 Mins	0.3782	0.2927	*Goals Per 90 Mins*	0.2994	0.2927
Assists Per 90 Mins	0.2168	0.1278	*Assists Per 90 Mins*	0.1736	0.1317
Addl. Shots on Target Per 90 Mins	0.7853	0.5081	*Addl. Shots on Target Per 90 Mins*	0.8407	0.5959
Fouls Per 90 Mins	1.0803	0.5794	*Fouls Per 90 Mins*	1.0797	0.7162
Cards Per 90 Mins	0.1464	0.0893	*Cards Per 90 Mins*	0.1426	0.1208
Panel I. Player club team performance			**Panel J. Player national team performance**		
1/Domestic League Rank	0.7259	0.3123	*1/FIFA National Team Rank*	0.2970	0.3270
1/Champions League Cup Rank	0.3840	0.3852	*1/Last World Cup Rank*	0.2716	0.3365
Prior Domestic League Wins	2.8750	2.6203	*World Cup Year*	0.2426	0.4303
Prior Champions League Cup Wins	0.8015	1.2221	*Prior World Cup Win*	0.0735	0.2620
Panel K. Country characteristics					
Fraction Shared Nation w/Voter	0.0057	0.0010	*Fraction Shared Federation w/Voter*	0.2425	0.1121
Physical Distance from Voter/1000	6.9660	2.0288	*Fraction Shared Colonial Ties w/Voter*	0.0796	0.0694
Fraction Common Language w/Voter	0.1012	0.0753	*Democracy Score*	6.5110	1.0228
HDI	0.8574	0.0896	*U.N. Ideal Point*	0.7677	0.7820
Player Observations	136				

(Continues)

TABLE 2 (Continued)

	All players in the choice set		Players with votes		Players without votes	
Variable	**Mean**	**Std. dev.**	**Mean**	**Std. dev.**	**Mean**	**Std. dev.**
(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
Panel L. Ballot-level data						
Vote Points	0.5355	0.2319	3.0006	0.0338	0.0000	0.0000
Shared Nation	0.0057	0.0250	0.0191	0.0952	0.0033	0.0206
Shared Federation	0.2478	0.3133	0.2637	0.3529	0.2448	0.3167
Physical Distance/1000	6.8449	3.1196	6.9669	3.5277	6.8147	3.1637
Shared Colonial Ties	0.0824	0.0935	0.1061	0.1977	0.0779	0.0961
Shared Official Language	0.1052	0.1340	0.1188	0.2142	0.1028	0.1409
Democracy Score	4.8562	2.0112	1.9879	1.6889	2.1047	1.6364
UN Ideal Point	0.1306	1.0186	1.0794	0.5749	1.2177	0.5137
HDI	0.7406	0.1563	0.1481	0.1172	0.1696	0.1187
Fraction Afrodescendant	0.2862	0.4144	0.3267	0.3355	0.3623	0.2899
Fraction Muslim	0.2349	0.3560	0.2827	0.3063	0.3240	0.2415
Voter Federation: AFC	0.2190	0.4136	0.2190	0.4136	0.2190	0.4136
Voter Federation: CAF	0.2270	0.4190	0.2270	0.4190	0.2270	0.4190
Voter Federation: CONCACAF	0.1491	0.3562	0.1491	0.3562	0.1491	0.3562
Voter Federation: CONMEBOL	0.0531	0.2243	0.0531	0.2243	0.0531	0.2243
Voter Federation: OFC	0.0400	0.1959	0.0400	0.1959	0.0400	0.1959
Voter Federation: UEFA	0.3118	0.4633	0.3118	0.4633	0.3118	0.4633
Year 2013	0.1545	0.3615	0.1545	0.3615	0.1545	0.3615
Year 2014	0.1553	0.3623	0.1553	0.3623	0.1553	0.3623
Year 2015	0.1422	0.3493	0.1422	0.3493	0.1422	0.3493
Year 2016	0.1291	0.3353	0.1291	0.3353	0.1291	0.3353
Year 2017	0.1311	0.3375	0.1311	0.3375	0.1311	0.3375
Year 2018	0.1445	0.3516	0.1445	0.3516	0.1445	0.3516
Year 2019	0.1433	0.3505	0.1433	0.3505	0.1433	0.3505
Ballot Observations	3502					

Note: Player data represent 23 candidates in each year from 2013 to 2016, 24 candidates in 2017, and 10 candidates in both 2018 and 2019. Domestic league individual statistics, champions League cup individual statistics, club team performances, and national team performances in Panels E-J include zeros for players without appearances. Ballot-level data represents 3502 voter ballots. Voters selected from 23 candidates in each year from 2013 to 2016, 24 candidates in 2017, and 10 candidates in both 2018 and 2019. In Panel L, Columns 2 and 3 display the mean and standard deviation for all players in the choice set, Columns 4 and 5 display the mean and standard deviation for players who received votes, and Columns 6 and 7 display the mean and standard deviation for players who did not receieve votes; *Democracy Score*, *U.N. Ideal Point*, *HDI*, *Fraction Afrodescendant*, and *Fraction Muslim* represent the voter-level country mean and standard deviation in Columns 2 and 3, but each represents the absolute value of differences between the voter's country and players on the voter's ballot in Columns 4–7.

well as the number of prior domestic league wins, prior Champions League wins, and prior World Cup wins.[13]

We included indicator variables for the player's domestic league (six European leagues were represented in the data set: the German Bundesliga, the Dutch Eredivisie, the Spanish La Liga, the French Ligue 1, the English Premier League, and the Italian Serie A) and the player's position as indicated in Football Reference

[13] Players who did not participate in the last World Cup were assigned zeros for the inverse World Cup ranking and given an indicator variable.

(there were six options: goalkeeper, defender, defender/midfielder, midfielder, forward/midfielder, and forward).

To measure celebrity, we turned to two measures. One was worldwide Google Trends scores for the current year (September to September). This measures how frequently the player is searched for in Google relative to Google's total volume of searches. To ensure comparability each player was compared to Cristiano Ronaldo who was the most popular player for every year in our data set. We took the average score for each player and standardized each year's scores to range from 0 to 100. We also included the reciprocal of SportsPro Media's 50 Most Marketable Athletes marketability rankings for each player included in their list (players not included were assigned a zero).

Finally, we included several measures of a player's group identity. To measure race, we determined from biographical sources whether the candidate had traceable roots to sub-Saharan Africa. Alternatively, we attempted to gauge the player's skin tone from photos on the Football Reference website using the method pioneered by Telles (2014).[14] We similarly used biographical sources to determine whether the player was Muslim.[15] Around 14.7 percent of candidates were Afrodescendant and 15.4 percent were Muslim.

Turning to the voters, we attempted to create variables that proxied the various similarities between voters and candidates.[16] Thus, we measured whether their countries belonged to the same FIFA federation (the six regional groupings of international football), the distance between their countries' capital cities (Meyer and Zignago 2011), whether their countries shared a colonial ruler (Hensel 2018), and whether their countries shared an official language (Melitz and Toubal 2012). We also included variables representing the level of democracy (Freedom House scores), economic development (the World Bank's Human Development Index), and U.N. voting ideal points—Bailey and Voeten's (2018) first dimension—for the countries of the candidates and voters.[17]

Unfortunately, we could not easily obtain voter-level data for variables on race and religion. Instead, we added the fraction of the Afrodescendant population (World Factbook, Joshua Project) and the fraction of the Muslim population in the voter's country (Pew Research Center 2011).[18] We then interacted these variables with the race and religion indicator variables for the candidates.[19]

We would note that about half of the national team coaches (48.5 percent) were not natives of the country they coached for. We initially assigned all coaches to the country where they coached, but we also tracked down their native country (typically from the transfermarkt.de database) and conducted analyses with this coding as well to determine whether social ties to their employer or their home country were stronger.

An initial analysis of voter ballots compared the characteristics of candidates (and their commonalities with the voters) who received first, second, or third place votes with those who did not. This analysis shows that candidates who received votes were more similar to voters in nearly all regards; they were more likely to share a nation and/or regional federation, more likely to share colonial ties and/or an official language, and were more similar along political, economic, racial, and religious lines. This initial examination provides a springboard for our more rigorous analysis presented in the next section.

[14] To gauge skin tone, we used photographs from Football Reference and methods described in Telles (2014). Skin tone values ranged from 1 (lightest) to 11 (darkest), and the overall value was calculated as the average of the authors' collaborative estimate (50 percent weight) and closest approximations in the Lab and RGB (red green blue) color spaces (25 percent weight each).

[15] Two ambiguous cases were Zlatan Ibrahimovic whose father was Muslim and Robin van Persie who married a Muslim woman. Though neither player has publicly professed adherence to Islam, some voters may still perceive them as Muslim. We coded both as 0.5.

[16] Previous work has used survey-based measures of culture such as Hofstede et al. (2010) or the World Values Survey (Ginsburgh and Noury 2008). We rejected this option because these variables were only available for a limited number of the 200-plus countries in our data set.

[17] Imputations for countries not included are described in Table A1.

[18] The values for both were top-coded at 0.99 and bottom-coded at 0.01 to account for potential over-estimation or under-estimation near the boundaries. Countries whose Muslim population was not listed in Pew Research Center (2011) were coded at 0.01.

[19] In all cases with an interaction term, we also included both constituent main effects, although some coefficients were omitted from the tables for the sake of brevity.

METHODS AND RESULTS

To formally test our hypotheses, we conducted ordered probit regressions of the form:

$$y_{ijt} = f\left(Z_{jt}\alpha + X_{it}\beta + W_{ijt}\gamma + u_{ijt}\right). \quad (1)$$

The dependent variable y_{ijt} was voter i's vote for candidate j in year t, which could take the values of 5, 3, 1, or 0 (for first, second, third, or no vote, respectively). Thus, we have 67,901 observations of voter–candidate–year combinations for the 136 candidates and 3502 ballots over 7 years. The independent variables included player-specific variables, Z_{jt}, voter-specific variables, X_{it}, and variables indicating commonalities between players and voters, W_{ijt}. Unobservable characteristics of players and voters that impact voting were represented by u_{ijt}. We calculated robust standard errors clustered on ballot and player-year to account for the negative intraclass correlation between players on each ballot. Each ballot was reweighted so that each year represents one-seventh of the sample.

Player characteristics

We begin in Table 3 looking only at player characteristics. As can be seen in Models 1, 3, and 5, FIFA video game scores, a summary measure of player quality, are strong predictors of votes. However, we worried that these scores might be contaminated by some of the very biases that we wished to analyze including higher scores for players with a greater celebrity or lower scores for black players. Indeed, we see some evidence for this in Models 5 and 6, where the inclusion of measures of celebrity and marketability considerably reduces the magnitude of the coefficient on the FIFA score. In short, celebrity matters over and above measurable performance on the pitch. Nonetheless, a celebrity may provide some signal of unmeasured player quality, which is why we choose to include it in our analysis.

A number of other noteworthy findings emerge from this table. The two most interesting are the strong influence of team performance and performance in international competitions. Thus, a player's club's performance in the Champions League and his national team's performance in a contemporaneous World Cup are strong predictors of votes. Looking in more detail at player statistics, we see that performance in international competitions plays a greater role than performance in domestic leagues. The chi-squared statistics for the four groupings of on-field statistics are significant in our preferred model as well as in most of the other specifications. Of the four, the current Champions League performance has the strongest and most consistent effects. Voters seem more interested in how players perform at the highest level than in ordinary competition.

The coefficients for the individual statistics are presented in Appendix Table A2. There we see again that it is mainly Champions League statistics that matter. In particular, games, minutes/game, and assists/90 min in the Champions League had relatively consistent and positive effects. Strangely, assists/90 min in prior Champions League appearances had a consistently negative effect. Most other individual statistics had insignificant or not consistently significant effects, though in total they had substantial explanatory power.

As a robustness test, we estimated a negative binomial regression model with each candidate's vote tally as the dependent variable and the same set of independent variables, thus removing the individual voter element of the data (see Appendix Table A3). This reduces the N from 67,901 candidate–voter–years to the 136 candidate-years. These results were similar to those in the full voter–candidate data set, although the marketability variable was slightly weaker.

TABLE 3 Impact of observable player and team characteristics on voting outcomes

	(1)	(2)	(3)	(4)	(5)	(6)
FIFA Rating	0.233***		0.271***		0.188***	
	(0.0316)		(0.0332)		(0.0435)	
Years of Experience	−0.0681	0.159	−0.130**	0.0895	0.00325	0.0866
	(0.0647)	(0.124)	(0.0606)	(0.119)	(0.0684)	(0.0924)
Years of Experience Squared	0.00188	−0.00854	0.00485	−0.00494	−0.00185	−0.00373
	(0.00340)	(0.00687)	(0.00367)	(0.00655)	(0.00387)	(0.00485)
1/Domestic League Rank			−0.185	−0.141	−0.0587	−0.204
			(0.211)	(0.248)	(0.233)	(0.204)
1/Champions League Cup Rank			0.845***	0.878***	0.757***	0.660***
			(0.160)	(0.254)	(0.159)	(0.178)
Prior Domestic League Wins			0.0172	−0.000197	0.0161	0.0561
			(0.0334)	(0.0450)	(0.0300)	(0.0438)
Prior Champions League Cup Wins			0.0873	0.264***	0.00109	0.0757
			(0.0627)	(0.0963)	(0.0722)	(0.0876)
1/FIFA National Team Rank			−0.136	0.0279	−0.174	−0.372
			(0.246)	(0.282)	(0.233)	(0.233)
*1/Last World Cup Rank*World Cup Year*			1.697***	1.968***	1.636***	1.820***
			(0.355)	(0.344)	(0.321)	(0.275)
1/Last World Cup Rank			−0.171	−0.213	−0.125	0.158
			(0.239)	(0.255)	(0.199)	(0.217)
Prior World Cup Win			−0.131	0.112	0.0844	0.143
			(0.256)	(0.292)	(0.281)	(0.256)
Adjusted Google Trends Rating					0.0118***	0.0479***
					(0.00431)	(0.00981)
1/Marketability Rank					0.396	2.508***
					(0.376)	(0.680)
Current Domestic League Stats, $\chi^2(7)$		14.00*		6.90		19.09***
Current Champions League Cup Stats, $\chi^2(7)$		18.33**		26.39***		37.89***
Prior Domestic League Stats, $\chi^2(7)$		15.56**		10.65		21.06***
Prior Champions League Cup Stats, $\chi^2(7)$		27.65***		19.30***		13.41*
Playing Position, $\chi^2(5)$	12.73**	10.39*	12.12**	15.10***	8.44	34.20***
Domestic League, $\chi^2(5)$	6.35	9.16	15.33***	8.03	10.13*	2.85
Observations	67,901	67,901	67,901	67,901	67,901	67,901
Pseudo R^2	0.161	0.189	0.198	0.209	0.207	0.227
Log pseudolikelihood	−3.899	−3.770	−3.729	−3.675	−3.688	−3.593

Note: Each column represents an ordered probit regression where vote points awarded are the dependent variable. Each ballot is reweighted such that each year represents one-seventh of the sample. Two-way cluster-robust standard errors clustered on ballot and player-year in parentheses.
*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Player–voter similarities

In Table 4, we introduce our measures of similarity between players and voters to test the similarity biases we laid out in H4–H10. All of these models include the same variables as included in our final player-specific regressions (Model 6 in Table 3). Throughout these models, we include a measure of home country bias that is consistently positive and highly significant. Voters are much more likely to vote for players from their home country, although these cases constitute only a small proportion of the voter–candidate pairs (approximately 0.6 percent).

Models 1 through 6 introduce all of the other types of similarity on their own. In just about all cases, these measures of similarity were statistically significant and correctly signed. Model 1 considers geographic similarity. Voters from the same FIFA federation as the candidate were more likely to vote for them, although the physical distance between the country of the voter and player was correctly signed but not statistically significant. Model 2 was our attempt to probe the effect of cultural similarities, which we measured as being part of the same colonial empire or having an official language in common. In both cases, cultural similarity increased a voter's likelihood of awarding votes to the candidates.

Model 3 focused on political similarity, which we measured with an interaction of the democracy scores for the country of the voter and player. Here, we find that having similar scores—an interaction between scores from both countries—made voters more likely to vote for the candidate. In addition, players from countries with higher levels of democracy were more likely to receive votes, ceteris paribus. We would note, however, that there was relatively little variation in player scores because most candidates came from countries with relatively high democracy scores.[20]

In Model 4, we tested whether economic similarities affected voting. Here, an interaction between the Human Development Index (HDI) scores for the countries of the voter and player had a positive and significant coefficient; however, players from countries with the highest levels of human development were penalized. As with democracy, there was relatively little variation in this variable across candidates.

Models 5 and 6 test our hypotheses about racial and religious similarity. First, we looked at the interaction between an indicator variable for whether the candidate had readily traceable African heritage and the percentage of Afrodescendant population in the country of the voter.[21] The positive and significant coefficient on the interaction term suggests that voters from countries with more Afrodescendant citizens were more likely to vote for players of African descent. This has the additional interpretation that voters from countries with fewer Afrodescendant citizens were more likely to vote for players without African ancestry.

It is also noteworthy that the main effect of the Afrodescendant indicator variable is positive and significant, indicating that these players receive more votes than would be expected given their performance. This was a surprising result as we had expected general bias against players of African descent given widespread racism in football (Kuper and Szymanski 2009). It may be that the large number of voters from non-white populations worldwide overwhelmed the potential racism from other voters. Alternatively, voters may be more sophisticated than the typical football fan. However, it remains possible that the Afrodescendant indicator variable is a signal of player quality that is not captured by the other variables in the model.

Model 6, which considers Muslim players and the fraction of the voter's country that is Muslim, yields similar results. The interaction is again positive and significant, indicating that voters from countries with more (less) Muslim citizens are more (less) likely to vote for Muslim players. As with Afrodescendant indicator variable, the main effect of the Muslim indicator is positive and significant, contrary to our expectations.

Model 7 considers all of these measures of similarity simultaneously. While the signs remain the same in all cases, we see that cultural, religious, and racial similarities maintain their statistical significance (although

[20] We also tested an alternative measure of political similarity, the similarity of the countries' ideal points in U.N. voting. This variable yielded similar results.

[21] In place of the indicator variable for the player, we also tested a variable based on the skin color of the player using the coding developed by Telles (2014). This variable behaved similarly.

TABLE 4 Tests for voter bias toward similar candidates

	Geographic similarity (1)	Cultural similarity (2)	Political similarity (3)	Economic similarity (4)	Racial similarity (5)	Religious similarity (6)	Full similarity (7)
Shared Federation	0.258***						0.156**
	(0.0885)						(0.0712)
Physical Distance/1000	−0.00804						−0.00641
	(0.00563)						(0.00435)
Shared Colonial Ruler		0.222***					0.222***
		(0.0463)					(0.0487)
Shared Official Language		0.190***					0.130***
		(0.0423)					(0.0405)
*Voter Dem. Score*Player Dem. Score*			0.0190***				0.00391
			(0.00522)				(0.00562)
Player Democracy Score			0.233*				0.101
			(0.131)				(0.138)
*Voter HDI*Player HDI*				4.434***			1.477
				(0.958)			(1.154)
Player HDI				−8.406***			−2.557
				(1.661)			(2.199)
*Voter Fraction Afrodesc.*Player Afrodesc.*					0.338**		0.232*
					(0.148)		(0.127)
Player Afrodescendant					0.751***		0.466*
					(0.168)		(0.252)
*Voter Fraction Muslim*Player Muslim*						0.383***	0.163**
						(0.0680)	(0.0650)
Player Muslim						0.994***	0.774**
						(0.282)	(0.302)
Shared Nation	1.274***	1.055***	1.408***	1.388***	1.423***	1.423***	1.003***
	(0.0921)	(0.105)	(0.0997)	(0.0974)	(0.0984)	(0.0986)	(0.104)
Federation: CAF	−0.553	−0.554	0.858	−1.888***	−0.516*	−1.462***	−1.070
	(0.369)	(0.374)	(0.628)	(0.566)	(0.268)	(0.512)	(1.069)
Federation: CONCACAF	−0.920***	−0.902***	−1.038***	−1.816***	−0.757**	−0.927***	−1.049*
	(0.346)	(0.350)	(0.358)	(0.467)	(0.365)	(0.356)	(0.598)
Federation: CONMEBOL	0.465**	0.401**	0.775***	0.0647	0.512***	0.634***	0.824**
	(0.201)	(0.202)	(0.269)	(0.215)	(0.196)	(0.200)	(0.352)
Observations	67,901	67,901	67,901	67,901	67,901	67,901	67,901
Pseudo R^2	0.238	0.239	0.238	0.239	0.242	0.239	0.241
Log pseudolikelihood	−3.543	−3.539	−3.544	−3.536	−3.523	−3.539	−3.527

Note: Each column represents an ordered probit regression where vote points awarded are the dependent variable. Each ballot is reweighted such that each year represents one-seventh of the sample. Each column includes all variables present in the full specification in Column 6 of Table 3. An indicator variable representing the *UEFA Federation* is omitted in all specifications. All columns also include indicator variables representing the voter's federation. In addition, Columns 3 and 7 include the *Voter's Democracy Score*, Columns 4 and 7 include the *Voter's Human Development Index*, Columns 6 and 7 include the *Voter's Fraction Afrodescendant*, and Columns 6 and 7 include the *Voter's Fraction Muslim*. Two-way cluster-robust standard errors clustered on ballot and player-year in parentheses.

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

slightly reduced for race) as does shared federation. Political and economic similarities are no longer statistically significant. This makes sense in that political and economic similarities would be less easily recognizable to voters, while a shared language, cultural milieu, race, and religion would be more obvious.

Throughout Table 4, we included indicator variables for the main football federations, a proxy for region, leaving out Europe (UEFA, the Union of European Football Associations), in order to examine whether voters favor candidates from certain regions of the world above and beyond those from their own region.[22] A notable finding here is that players from South America (the CONMEBOL federation) fairly consistently receive more votes than European players even after controlling for other factors. Players from Africa (CAF) sometimes receive fewer votes but not as consistently.[23]

Effect sizes

Table 5 provides more understandable estimates of the effect sizes of our key variables. It presents the average point change per ballot and the average points per player-year for a one-unit change in each variable, all else equal, using results from Model 7 in Table 4.

The largest effect is for the shared nation variable, which contributes nearly 0.9 points per ballot and would add 317 points to a candidate's tally if he shared a country with every voter. A similarly large effect can be attributed to players in the South American region (the CONMEBOL federation). These players receive almost 2/3 more points per ballot and 235 more total points per year.

Two other relatively large effects are the main effects for Afrodescendant and Muslim players who receive 0.36 and 0.49 more points per ballot, respectively. We do not have a good explanation for why these players received such a significant boost, as our prior expectation was that they would be disadvantaged. However, referring to Table 2, we can see that the average country's citizens are over 25 percent Afrodescendant and nearly 25 percent Muslim. Thus, incorrect preconceptions about the characteristics of the typical FIFA voter likely biased our prior expectations.

Our other similarity measures have more moderate effect sizes. A shared colonial ruler contributes 0.14 points per ballot, shared federation about 0.1 points per ballot, and shared official language about 0.08 points per ballot. Meanwhile, the interactions between the percentage of Afrodescendants and Muslims with whether a player was Afrodescendant or Muslim were also significant. These effects show that Afrodescendant players received 0.19 points more per ballot from voters located in countries with nearly all Afrodescendant citizens as compared to those from countries with only a few. Similarly, Muslim players received 0.09 points more points per ballot from voters located in countries with nearly all Muslim citizens as compared to those from countries with only a few Muslim citizens.

An alternative way of understanding the size of the effects can be seen in Table 6, where we compare the actual vote tally for the top five finishers in each year, their predicted tally based on our full model in Model 7 of Table 4, and their predicted tally if we hold all terms not present in the player and team characteristic model at mean levels. In other words, the table shows which players would gain or lose votes if we removed the biases from Table 4.

A major difference is that European players, particularly Cristiano Ronaldo of Portugal, would gain a significant number of votes in a bias-free model, while South American players like Lionel Messi and Neymar would lose large numbers of votes. While this would only change the final winner in the 2019 vote where Messi would drop from first to fourth and Ronaldo would rise from third to first, the differences were often substantial. These changes were somewhat unexpected as football connoisseurs tend to elevate Messi over Ronaldo (Morris 2014). The effect seems to be related to the bonus that South American play-

[22] In theory, federation indicator variables should be included in order to find an unbiased estimate of the impact of a shared federation on voting since players and voters are not uniformly distributed across federations. Nonetheless, we estimated a robustness check of the main results that excluded federation indicator variables and found similar results.

[23] The variable for CONCACAF (Confederation of North, Central American and Caribbean Assocation Football) can be ignored because it is based on a single player, goalkeeper Keylor Navas.

TABLE 5 Size of voter bias effects

(1)	Avg. points per ballot (2)	Avg. points per player-year (3)	(4)	Avg. points per ballot (5)	Avg. points per player-year (6)
Shared Nation	0.869***	316.7***	*Player Democracy Score*	0.0718	23.50
	(0.116)	(45.54)		(0.0816)	(26.75)
Shared Federation	0.0966**	31.89**	*Player Democracy Score*	0.0134	4.322
	(0.0458)	(15.38)	*at Voter Dem. Score Max-Min*	(0.0204)	(6.657)
Physical Distance/1000	−0.00385	-1.260	*Player HDI*	−0.878	−287.7
	(0.00261)	(0.858)		(1.293)	(424.1)
Shared Colonial Ruler	0.143***	47.80***	*Player HDI*	0.590	196.9
	(0.0344)	(11.92)	*at Voter HDI Max-Min*	(0.424)	(139.7)
Shared Official Language	0.0812***	26.86***	*Player Afrodescendant*	0.364*	123.9*
	(0.0264)	(8.788)		(0.191)	(67.59)
Federation: CAF	−0.399	−121.5	*Player Afrodescendant*	0.190*	67.89*
	(0.291)	(92.76)	*at Voter Frac. Afrodesc. Max-Min*	(0.107)	(38.79)
Federation: CONCACAF	−0.395**	−120.4*	*Player Muslim*	0.487***	159.7***
	(0.183)	(63.52)		(0.180)	(59.97)
Federation: CONMEBOL	0.642**	234.9**	*Player Muslim*	0.0883**	27.92**
	(0.310)	(111.6)	*at Voter Frac. Muslim Max-Min*	(0.0406)	(13.56)

Note: Columns 2 and 5 show the ceteris paribus average point change per ballot for a one-unit change in each variable, and Columns 3 and 6 show the average point change per player-year due to a one-unit change in each variable. For each variable in Column 4, average point change differences are also calculated between the maximum and minimum voter values. All estimates are based on the specification shown in Column 7 of Table 4. All Federation indicator variables should be compared to the UEFA Federation, the omitted category. Two-way cluster-robust standard errors clustered on ballot and player-year in parentheses.
*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

TABLE 6 Impact of voter bias on aggregate vote tallies

Player	Vote tally	Rank	Predicted tally with bias	Predicted rank with bias	Predicted tally holding bias constant	Predicted rank holding bias constant
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A. 2013 vote						
Cristiano Ronaldo	1365	1	1490	1	1542	1
Lionel Messi	1205	2	1471	2	854	2
Franck Ribery	1127	3	737	3	324	3
Zlatan Ibrahimovic	257	4	268	4	241	4
Neymar	155	5	129	5	9	17
Panel B. 2014 vote						
Cristiano Ronaldo	1844	1	1859	1	1836	1
Lionel Messi	772	2	716	2	351	5
Manuel Neuer	769	3	590	3	857	2
Arjen Robben	351	4	291	6	484	4
Thomas Muller	265	5	302	5	510	3
Panel C. 2015 vote						
Lionel Messi	1857	1	2032	1	1348	1
Cristiano Ronaldo	1244	2	1214	2	1295	2
Neymar	353	3	326	3	39	12
Robert Lewandowski	187	4	101	6	171	5
Luis Suarez	152	5	208	4	61	9
Panel D. 2016 vote						
Cristiano Ronaldo	1541	1	1713	1	1648	1
Lionel Messi	1102	2	872	2	471	2
Antoine Griezmann	341	3	213	4	353	3
Neymar	230	4	242	3	26	14
Luis Suarez	165	5	66	9	16	16
Panel E. 2017 vote						
Cristiano Ronaldo	1888	1	1928	1	1808	1
Lionel Messi	823	2	848	2	460	2
Gianluigi Buffon	317	3	146	6	242	5
Neymar	298	4	205	3	21	17
Sergio Ramos	126	5	154	5	246	4
Panel F. 2018 vote						
Luka Modric	1525	1	1166	2	1304	1
Cristiano Ronaldo	895	2	1170	1	1267	2
Kylian Mbappe	539	3	555	3	211	7
Antoine Griezmann	339	4	392	4	593	4
Lionel Messi	335	5	335	6	148	8

(Continues)

TABLE 6 (Continued)

Player	Vote tally	Rank	Predicted tally with bias	Predicted rank with bias	Predicted tally holding bias constant	Predicted rank holding bias constant
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel G. 2019 vote						
Lionel Messi	1120	1	1217	1	695	4
Virgil van Dijk	1088	2	1042	2	794	3
Cristiano Ronaldo	901	3	1036	3	1152	1
Mohamed Salah	360	4	348	5	950	2
Sadio Mane	355	5	355	4	169	7

Note: Each Panel A through G shows the vote tally for years 2013 through 2019, respectively. The predicted tally with bias shown in Column 4 comes from the aggregated predicted values from the full ordered probit regression model shown in Table 4, Column 7. Column 5 ranks these aggregated predicted values.

The predicted tally holding bias constant shown in Column 6 comes from the aggregated predicted values from the full ordered probit regression model shown in Table 4, Column 7, where all terms not present in the player and team characteristic model shown in Table 3, Column 6 are held at the mean levels; cutpoints are reestimated to allow the model to achieve the same vote distribution as the full unadjusted model. Column 7 ranks these aggregated predicted values.

ers receive, which is removed in these new calculations. We also observe that Afrodescendant candidates appear to get some advantage from voters, with Sadio Mane, Kylian Mbappe, Neymar, and Virgil van Dijk all receiving lower vote tallies in the bias-free model.

Voter heterogeneity

We now turn to heterogeneity among voters. Here, we were interested in determining whether different types of voters exhibited different sorts of biases based on their knowledge or incentives to vote in particular ways. We focus first on the differences between voters who are team captains, team coaches, and media members. Thus, Table 7 presents our previous models with interactions of the main variables with indicator variables representing captains and media members. Coaches was the omitted category, so interaction effects are those relative to coaches.

Two main results emerged here. First, the shared nation bias was weaker for captains and the media than for coaches. As we have mentioned, coaches have an existential incentive to support players from the team that they coach. While captains might have a similar incentive, they also have reason to support players from their club teams and are under less pressure than coaches to please others in order to maintain their position. Stronger incentives for coaches may thus explain these effects.

Second, media members were more likely to reward performance in high-profile events like the Champions League and the World Cup, as well as vote based on popularity and marketability. This may reflect the nature of their profession with its focus on newsworthy events, but it could also indicate less knowledge of, or ability to evaluate, player performance.[24]

We also considered voter categories related to knowledge. In particular, we suspected that voters from less successful football cultures might vote differently than those from more successful ones. We thus considered whether votes from federations other than Europe (UEFA) and South America (CONMEBOL) voted differently than those from the two main suppliers of football talent and whether voters from countries whose teams were ranked at the bottom or middle of the FIFA national team rankings voted differently than those from countries ranked near the top. However, in neither case did we find

[24] Aside from its brief alliance with the FIFA award, the Ballon d'Or has been based only on the votes of journalists.

TABLE 7 Tests for voter bias heterogeneity by type of voter

	Main effect	Captains interaction term	Media interaction term
	(1)	(2)	(3)
Shared Nation	1.565***	−0.994***	−0.676***
	(0.147)	(0.225)	(0.175)
Shared Federation	0.179*	−0.0467	−0.00935
	(0.106)	(0.0901)	(0.108)
Physical Distance/1000	−0.00707	0.00217	−0.00114
	(0.00601)	(0.00662)	(0.00811)
Shared Colonial Ruler	0.237***	−0.0242	−0.00938
	(0.0713)	(0.0745)	(0.0884)
Shared Official Language	0.142**	0.0198	−0.0635
	(0.0634)	(0.0695)	(0.0722)
*Voter Democracy Score*Player Democracy Score*	−0.00239	0.0102	0.00743
	(0.00795)	(0.00730)	(0.00872)
*Voter HDI*Player HDI*	2.036*	−1.603	0.0479
	(1.191)	(1.480)	(1.299)
*Voter Fraction Afrodescendant*Player Afrodescendant*	0.248**	−0.0509	0.00958
	(0.121)	(0.103)	(0.118)
*Voter Fraction Muslim*Player Muslim*	0.0464	0.175	0.169
	(0.0852)	(0.117)	(0.118)
Federation: CAF	−1.626	1.069**	0.902
	(1.150)	(0.490)	(0.718)
Federation: CONCACAF	−1.046*	0.0809	0.143
	(0.619)	(0.212)	(0.409)
Federation: CONMEBOL	0.404	0.341**	1.293***
	(0.349)	(0.146)	(0.259)
1/Domestic League Rank	0.0230	0.0330	0.138
	(0.202)	(0.0983)	(0.128)
1/Champions League Cup Rank	0.479***	−0.118	0.464***
	(0.171)	(0.102)	(0.156)
Prior Domoestic League Wins	0.00994	−0.0225	−0.0317
	(0.0529)	(0.0194)	(0.0289)
Prior Champions League Cup Wins	0.0809	−0.0148	−0.147**
	(0.0891)	(0.0383)	(0.0611)
1/FIFA National Team Rank	−0.418	0.00600	−0.452**
	(0.293)	(0.146)	(0.184)
*1/Last World Cup Rank*World Cup Year*	1.582***	−0.188	1.214***
	(0.281)	(0.138)	(0.186)
1/Last World Cup Rank	0.540**	−0.205	0.0424
	(0.256)	(0.138)	(0.184)
Prior World Cup Win	0.684**	0.0672	0.904***
	(0.324)	(0.134)	(0.277)

(Continues)

TABLE 7 (Continued)

	Main effect (1)	Captains interaction term (2)	Media interaction term (3)
Adjusted Google Trends Rating	0.0469***	0.00167	0.0188**
	(0.0127)	(0.00487)	(0.00735)
1/Marketability Rank	1.502**	−0.125	0.695**
	(0.584)	(0.255)	(0.332)
Current Domestic League Stats, $\chi^2(7)$	9.91	7.53	18.98***
Current Champions League Cup Stats, $\chi^2(7)$	26.81***	20.68***	16.78**
Prior Domestic League Stats, $\chi^2(7)$	10.85	3.63	27.78***
Prior Champions League Cup Stats, $\chi^2(7)$	25.58***	4.83	30.59***
Playing Position, $\chi^2(5)$	42.09***	8.88	19.10***
Domestic League, $\chi^2(5)$	4.20	7.83	5.61
Observations	67,901		
Pseudo R^2	0.258		
Log pseudolikelihood	−3.449		

Note: Columns 1–3 are the coefficients from a single ordered probit regression where vote points awarded is the dependent variable. Column 1 represents the main effect, and Columns 2 and 3 represent captains' and media members' difference from the base group of coaches, respectively. Each ballot is reweighted such that each year represents one-seventh of the sample.
Each column includes all variables present in the full specification in Column 7 of Table 4 interacted with indicator variables for captains and media members. Two-way cluster-robust standard errors clustered on ballot and player-year in parentheses.
*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

significant effects that appeared to be related to anything other than random chance. As measured in this way, knowledge of football per se did not seem to matter much in terms of voter bias.

CONCLUSION

Most voting takes place in private—allowing voters to indulge their prejudices—and in contexts where voters have little information about their voting options. It may not be a surprise that in such situations, voters often suffer, either consciously or unconsciously, from a number of group-related biases. An open question is whether these biases persist even when voting is public and voters are well-informed.

This article identifies just such a case by looking at a prominent award in international football where the voters are experts and their individual votes are publicized. The fact that such group-based biases persist even in this context suggests that they may be even more deep-seated than scholars have realized. This has important consequences for the functioning of democracy. If group biases survive even under these circumstances, then we might have less faith that citizens can vote well on political issues in existing democracies.

Our results, however, are not entirely negative. The quality of the candidates does matter for voters and voters are nuanced in their consideration of player performance, focusing in particular on player performance at the highest level. Further, some of the biases we discovered seem to be rooted in incentives, particularly pressures to vote for co-nationals and teammates in order to support team morale. Finally, we found less evidence of aggregate racism or Islamophobia due to the diversity of the voter pool. Group biases tended to be in favor of similar groups.

A potential policy implication of this research concerns the structure of prizes and awards. A number of works have considered the use of prizes and awards as an incentive for stimulating socially useful behavior (Frey and Gallus 2015). This article, however, makes it clear that considerable attention should be given

to the juries that choose the winners of such prizes or awards. If group-based biases are common in such contexts, as they are for this football award, then the jury needs to be carefully chosen to limit such biases. For instance, in this context where the votes are publicly disclosed, coaches and players have incentives to vote for fellow countrymen and teammates, so it would seem prudent to limit voting to media members who do not have such predilections or to introduce a secret ballot. However, such a decision must be weighed against the potential that this group may be less knowledgeable or place an emphasis on different criteria than other voters.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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