'Does culture explain voting biases in association football awards?': The FIFA Ballon d'Or 2013 award.

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ABSTRACT, This bachelor thesis assesses whether voting biases can be explained by cultural similarities in the FIFA Ballon d'Or 2013 award. The data for this award is publicly available and the award has been publicly accused of being biased. After analyzing previous literature we find that a nationality bias seems to exist in the judging of certain Olympic sports, while a cultural bias seems to exist in the Eurovision Song Contest. We calculate voting biases and use Hofstede's culture indexes to calculate cultural diversity between voter and player. We then perform a correlation and multiple regression analysis to find whether cultural similarity significantly affects voting bias. No evidence is found that cultural diversity significantly effects voting bias. However, we find evidence that a nationality bias exist in the FIFA Ballon d'Or 2013 award. The results also imply that cultural voting bias only exists when voters can't vote for people from the same nationality.

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1. INTRODUCTION

This bachelor thesis focuses on the effects of culture on voting behavior by studying the FIFA Ballon d'Or 2013 award. This award is granted to the best football player of the year and is based on a positional voting system where the voters each have three votes, worth five points, three points and one point. The player with the highest accumulated amount of points wins. Voters consist of coaches and captains of national teams and a journalist representing that country. In 2013, Cristiano Ronaldo (28.03%), Messi (24.75%) and Ribéry (23.15%) finished in the top three with the majority (75.93%) of votes (FIFA, 2014). During recent years there have been controversies surrounding the award. Votes were accused of being wrongly counted in 2010. Voters who voted for Xavi claimed their votes were registered as votes for Xabi Alonso (Totalbarca, 2011). In 2013, moving the voting deadline sparked controversy. The voting data for 2013 is publicly available. The amount of voting data where both voter and who the voted for are known is limited, turning this into a rare opportunity to study voting behavior.

The original voting deadline was 15 November 2013. However, on the 20th of November 2013, the voting deadline was extended to 29 November 2013 by FIFA and France Football. The reason for the extension was ''receiving a response of less than 50% from eligible voters before the original deadline.'' (ESPN FC, 2013). Voters who had already voted were also able to change their votes to ''take into account recent performances''. The extension of the deadline has caused controversy because it was announced shortly after Cristiano Ronaldo scored a spectacular hattrick against Sweden (BBC, 2013). The deadline change to take into account recent performances is accused of being a ploy to let Cristiano Ronaldo win.

The FIFA Ballon d'Or award has also been called biased because voters seem to vote strategically or for players from their own country and culture. For example, Italian captain Buffon awarded his five points to fellow Italian Pirlo, above Cristiano Ronaldo and Messi. Dutch captain Robben awarded his five points to fellow Dutchman Robin van Persie, above Cristiano Ronaldo and Ibrahimovic. At first glance, it seems that voters have a tendency to vote for players from their own country. Since the 23 nominated players are originative from only fifteen different countries while voters are originative from 195 unique countries, this seems unlikely to explain all voting behavior. From the dataset we can also see that the captain of Uruguay gave his first and second vote to nationals Suarez and Cavani, while awarding his third vote to fellow South-American Messi. He rewarded all his points to players from a similar culture. (FIFA, 2014)

Voting behavior in the FIFA Ballon d'Or has not been studied before, but it has been studied in similar contexts. Fenn et al. (2006) study voting behavior in the Eurovision song contest and find that voting similarities are caused by not just geographical proximity but by a common historical or cultural background instead. Ginsburgh and Noury (2008) studied the same phenomenon and found strong evidence that 'cultural voting' exists. Because of the composition of the dataset and previous mentioned research this thesis will focus on the effects of culture on voting behavior. These studies provide evidence that voters seem to positively bias singers from similar cultures. Applying this to the FIFA Ballon d'Or would lead us to expect that voters positively bias players from similar cultures. Therefore, the research question of this bachelor thesis is: '*Does cultural similarity lead to voting bias in the FIFA Ballon d'Or 2013 award?*'

To answer this research question information has to be collected about the literature, FIFA Ballon d'Or and the proper methodology. Therefore, the following sub questions have been formulated.

- What are the rules and specifics of the FIFA Ballon d'Or 2013 award?
- What does the literature tell us about the phenomena of voting bias and culture?
- What is the proper methodology to test and analyze culture and voting bias?

The setup of this paper is as follows. Section 2 explains the rules and context of the award. Section 3 discusses earlier studies dealing with voting bias in similar contexts and outlines the theoretical framework. In section 4 the data and methodology are described. Section 5 discusses the results. Section 6 concludes and section 7 discusses the thesis and gives recommendations for future research.

2. THE FIFA BALLON D'OR AWARD

The FIFA Ballon d'Or exists since 2010 as a merger of the France Football's Ballon d'Or and the FIFA World Player of the Year award.

The France Ballon d'Or came into existence in 1956 and was originally presented to the best player from a European nation, playing club football in a European league. In 1995 the rules were changed so that non-European players were eligible as long as they played for a European club. Another rule change in 2007 allowed any player in the world to be eligible, turning the Ballon d'Or into an international award. Voting was then done by 96 journalists from around the world who chose their top five players, instead of the 52 European based journalists before 2007. (BBC, 2008)

The FIFA world Player of the Year Award came into existence in 1991 and had a similar approach as the current FIFA Ballon d'Or. The award was presented to the player voted as best player in the world by coaches of international teams. Initially, each coach had three votes, worth five points, three points and one point that they could give to the player of their desire. The winner is based on the total number of points. Criticism from the media surrounding previous nominations let to a rule change in 2004. A preliminary list of 35 nominees was established by FIFA. Captains of national teams and representatives from FIFpro (the worldwide representative organization for professional players) also became able to vote. (FIFA, 2004) (RSSSF, 2014)

The FIFA Ballon d'Or has elements of both. The award is presented to the male player who is considered the best player in the previous year.

To arrive at the winner of the FIFA Ballon d'Or the following process is preceded. First, a shortlist of 23 male players is compiled by members of FIFA's Football Committee and a group of experts from France Football. The list for 2013 was announced on 29 October 2013. Then, coaches, captains and a journalist representing each country get to vote. The award uses a positional voting system where the voters each have 3 votes, worth five points, three points and one point. Therefore, one country has 3 voters that can allocate a maximum of 27 points.[1] In the end, all votes are summed up and the player with the most points wins the award. The first three FIFA Ballon d'Ors were won by Lionel Messi in 2010, 2011 and 2012 respectively. In 2013 Cristiano Ronaldo won the award after placing second in 2011 and 2012. (Independent, 2013) (FIFA, 2013, 2014)

[1] However, not all voters from each country sent in their scores. For example, there is no 'coach' vote from Germany in 2013.

3. LITERATURE

Specific research on voting bias in the FIFA Ballon d'Or has not been done before. However, research concerning voting bias has been done in similar contexts. We first explore the sports context. Campbell and Galbraith (1996) study voting bias in the judging of Olympic figure-skating events. They find strong evidence that there is a small national bias that stays stable over time. This national bias refers to judges favoring skaters with the same nationality. It is not clear whether this bias is only caused by nationality or by taste for a particular style of skating. Zitzewitz (2006) also studies nationalistic biases in the judging of Olympic winter sports; ski jumping and figure-skating. He shows that the amount and type of bias is quite different for both sports. Judges seem to compensate for each other's nationalistic biases in ski jumping (most athletes have a judge with the same nationality in the panel) while figure-skating shows signs of vote trading and bloc judging. His results also show that career concerns play a part in the decisions of the judges. Popovic (2000) studies bias in rhythmic gymnastics at the Sydney-2000 Olympic Games and reveals evidence to support the existence of a national bias in rhythmic gymnastics judging. Like Campbell and Galbraith, he finds that judges seem to prefer athletes from the same nationality. All these studies find evidence that biases, and in particular national biases, exists in the judgment of Olympic sports.

Besides the sports context, voting biases have also been broadly studied in a context that resembles the FIFA Ballon d'Or, the Eurovision Song Contest. Here, each country is represented by a song. The Eurovision Song Contest uses a 'preference voting procedure' where each country gets to award 1, 2, 3, 4, 5, 6, 7, 8, 10 and 12 points to different songs. The vote is determined by juries and tele voting. A difference with the FIFA Ballon d'Or is that voters cannot vote for their own country. The song and country with the highest amount of accumulated points wins. Spierdijk and Vellekoop (2009) present strong evidence for voting bias in the Eurovision Song Contest (ESC) based on geographical, cultural, linguistic, religious and ethical factors. Charron (2013) builds on this research and finds that voting bias in the ESC does occur, although not all countries engage in the same level of bias.

These results are interesting, because they suggest that culture is a cause of voting bias. However, the interpretation has to be done carefully because there are some differences between the FIFA Ballon d'Or and the Eurovision Song Contest, like not being able to vote for your own country. A second difference is that for the FIFA Ballon d'Or only experts are allowed to vote. Coaches, captains and (sports) media can be seen as experts. Throughout the history of the ESC there have been changes in the composition of voters including experts and the public. Haan et al. (2005) studying ESC voting data find that experts are better judges of quality and that the outcome of finals judged by experts is less sensitive to factors unrelated to quality. This leads to less inefficiencies according to them and should in theory lead to less bias. Hence, we study voting behavior of experts and might be able to elaborate on these findings.

Yair (1995) studies voting blocs using voting data from the Eurovision Song Contest and finds a three bloc-structure. A Western, Northern and Mediterranean Bloc. According to Yair, the Northern and Mediterranean bloc are mainly caused by common cultural experiences or codes. Fenn et al. (2006) use a framework of complex dynamical networks to analyze voting behavior in the ESC. They confirm that unofficial cliques of countries exist. However, these are not always the expected ones. Fenn et al. conclude that these cliques and observed voting similarities are caused by cultural background or common history instead of just geographical proximity. Similarly, Ginsburgh and Noury (2008) show that votes are driven by quality of participants and linguistic and cultural proximities between singers and voting countries. They show that 'quality' plays the most important role. They also show that voting blocs or cliques exist and that these are based on linguistic and cultural similarities. Spierdijk and Vellekoop (2009) also mention that juries have significantly higher biases toward songs in a related language and to songs coming from a similar culture. Finally, García and Tanase (2013) suggest that there is a relation between cultural distance and voting biases in the Eurovision Song Contest.

Based on these two strands of literature we can conclude that voting bias and cultural voting seem to exist in these type of competitions. Here, Cultural voting refers to cultural similarity causing an increase in voting bias. This also implies that cultural diversity leads to lower voting biases. Cultural diversity can be more accurately operationalized than cultural similarity. Therefore, we present the following hypothesis:

H1. Cultural diversity between voter and player has a negative effect on voting bias.

4. METHODOLOGY

FIFA uploaded the dataset containing the voter, name, country and the players they gave five, three and one point to. This dataset consists of 1623 votes from 541 voters. These voters consist of 184 captains, 184 coaches and 173 journalists. The total amount of rewarded points is 4868 (541*9). The dataset has been enriched with the nationality of voters to study their cultural background. For players, their nationality and data concerning the amount of goals, assists and matches played have been collected to present the quality of players. This data comes from secondary sources like Transfermarkt.de. We use secondary data in this thesis because the FIFA dataset was made publicly, and it would be impossible to primarily collect all data required for the analysis.

Table 1 presents the distribution of captains, coaches and media in the dataset. Votes have been received from 196 different countries. Not all three voters from these countries sent in their votes, 184 captains, 184 coaches and 173 journalists did. We can also see that the 23 nominated players originate from fifteen different countries. Six of these players are also voters, because they are captains of their national teams. These captains are: Cristiano Ronaldo, Ibrahimovic, Lahm, Messi, Silva, and van Persie. None of these captains voted for themselves.

Table 1

Distribution of captains, coaches, media and represented countries in the dataset.

	Voters	Players
Different Countries	196	15
Captains	184	6
Coaches	184	-
Media	173	-
N	541	23

Note. N = amount of participants

Hofstede's culture scores are taken from his official website.[2] Data for his first four dimensions has been collected for 103 countries. In the FIFA dataset, England, Northern Ireland, Scotland and Wales all have separate votes. Since Hofstede uses one score for the United Kingdom this score has been used for England, Northern Ireland, Scotland and Wales. In terms of finding the nationality of each voter we can conclude that the captains of national teams have the same nationality as the team they play for. The same assumption is made for the journalists representing their country. For the coaches, each coach their nationality has been individually collected.

The amount of goals, assists and matches played has been collected for the period of 01-01-2013 until the voting deadline of 29-11-2013. Club matches and international matches are used in the analysis, friendly matches are not included. This data will be used to calculate the amount of goals per match (GPM) and assists per match (APM).

Background information and data for the 23 nominated players, like their age, club, and nationality can be found in Appendix A. This table also represents the amount of goals made, assists made and matches played. The values and calculations for GPM and APM are also included. We see that the top 2 players, Cristiano Ronaldo and Messi have the highest GPM of all players with 1.20 and 1.00 respectively. The other top 3 player Ribéry scores lower on GPM with 0.41, but has the highest APM with 0.53.

4.1 Dependent variable: Bias

The discussion of cultural voting implies that there is a systematic bias between certain voters and players. The definition and calculation of bias used in this thesis builds on the work of Spierdijk and Vellekoop (2009) and Charron (2013). Bias is here defined as favoritism; voting behavior that is not solely based on the quality of players, but on other factors. Bias is not just giving a high amount of points to a player, it is a relative phenomenon. Therefore, when studying the bias for Vote Vij (from voter Vi to player Vj), we are interested in this vote compared to the average vote from all other voters to that player. To calculate this 'Average vote others' for each vote V*j,* we have to subtract the points given from voter Vi from the total amount of points the player received. This is also called the average aggregate number of points from all other voters to player Vj. The first formula shows the formula for the normal 'Average vote' and the second formula shows the 'Average vote others'.

$$Average\ vote\ Vj = \frac{1}{541}\sum_{a=1}^{541} Vaj \qquad (1)$$

$$Average\ vote\ others\ Vj = \frac{1}{540}\sum_{a=1\ (a\neq i)}^{541} Vaj \qquad (2)$$

Where the Average vote others for player Vj is its total amount of points (minus points from voter Vi) multiplied by the number of voters a. The amount of voters is subtracted by one, because this vote is from Vi and is ruled out from the equation. Where j = 1…23 since there are 23 players, and a = 1...541 since there are 541 voters. The formula also implies that the Average vote others is dependent on the studied vote. The bias is then calculated by comparing the Average vote others Vj to vote Vij and is defined as:

$$Bias\ Vij = VoteVij - Average\ vote\ others\ Vj \qquad (3)$$

As an example, we provide the calculations of the biases given to Manuel Neuer. In total Neuer received four points, three from the French captain 'Hugo Lloris' and one from the Antiguan coach. From all other voters he received zero points. The calculation of his Average vote others and bias received is as follows:

$$Vote\ French\ captain = 3 \qquad (4.1)$$

$$Average\ vote\ others = \frac{1}{540} * 1 = 0{,}00185 \qquad (4.2)$$

$$Bias = 3 - 0{,}00185 = 2{,}99815 \qquad (4.3)$$

$$Vote\ Antiguan\ coach = 1 \qquad (5.1)$$

$$Average\ vote\ others = \frac{1}{540} * 3 = 0{,}00556 \qquad (5.2)$$

$$Bias = 1 - 0{,}00556 = 0{,}99444 \qquad (5.3)$$

From these two voters, Neuer than received an average bias of:

$$Average\ bias\ (received\ votes) = \frac{2{,}99815 + 0{,}99444}{2} = 1{,}996 \qquad (6)$$

4.2 Independent variable: Cultural diversity

To measure cultural diversity between voter and player we look at the scores of their home country on Hofstede's indexes. Hofstede's theory (1980, 1991) views culture from a set of dimensions. Each dimension uses an index from 0-100 that is used to compare cultures. The original theory includes four dimensions: Power Distance, Individualism, Masculinity and Uncertainty Avoidance. In 2010, Pragmatism and Indulgence were added as the fifth and sixth dimension. However, data for these new dimensions is not available for all countries. To include more countries in our final analysis we only use the first four dimensions of Hofstede to calculate cultural differences. The first four dimensions are defined as follows[3]:

Power Distance: The extent to which the less powerful members of organizations and institutions accept and expect that power is distributed unequally.

Individualism: The degree to which individuals are integrated into groups. The opposite of Individualism is Collectivism.

[2] http://www.geert-hofstede.com

[3] Taken from: http://www.geerthofstede.nl

Masculinity: Refers to the distribution of emotional roles between the genders. The opposite of Masculinity is Femininity.

Uncertainty Avoidance: Deals with a society's tolerance for uncertainty and ambiguity.

First, we collect the scores for all four dimensions for player and voter. Then, the distances on each dimensions are calculated and the absolute scores are combined to form a score on cultural diversity. A low score implies cultural similarity, while a high score implies cultural diversity between voter and player. In a formula it would like this:

$$CDpv = |PDp - PDv| + |INDp - INDv| + |MSCp - MSCv| + |UAp - UAv| \tag{7}$$

Where CD = Cultural diversity, *PDj* = score on Power Distance index, *INDj* = score on Individualism index, *MSCj* = score on Masculinity index, *UAj* = score on Uncertainty Avoidance index. And where *j* is *p* for the scores of the player and *v* for the scores of the voter.

As an example we provide the scores for Neuer and the French captain 'Hugo Lloris' in table 2.

Table 2

Scores on Hofstede's culture dimensions for Manuel Neuer and Hugo Lloris.

Name	Nationality	PD	IND	MSC	UA
Manuel Neuer	German	35	67	66	65
Hugo Lloris	French	68	71	43	86

Note. PD = Power Distance, IND = Individualism, MSC = Masculinity, UA = Uncertainty Avoidance

The cultural diversity between Neuer and Lloris is than calculated as follows:

$$CD = |35 - 68| + |67 - 71| + |66 - 43| + |65 - 86| = 81 \tag{8}$$

4.3 Control Variables

Control variables are included in the analysis to clarify the relationship between cultural diversity and bias, our independent and dependent variable. These control variables are constant and unchanged throughout the analysis and might prove other explanations for the dependent variable than the independent variable. The first variable we control for is function; whether the voter is a captain, coach or journalist. Since this is a categorical variable with no ranking element we cannot simply assign scores of captain = 1, coach = 2, journalist = 3. Creating three new variables like, captain = 0 or 1, coach = 0 or 1, journalist = 0 or 1 also isn't an option. This way, the variance in the third variable can be explained by the two other variables and perfect multicollinearity would exist. Perfoming a multiple regression analysis with all three variables would then be impossible. For example, if a voter isn't a captain or coach that voter must be a journalist. Therefore, we create two dummy variables and take captain as the baseline or starting point. The two dummy variables are than called 'Coach' (0 for not a coach, 1 for coach) and 'Media' (0 for not media, and 1 for media). Captain is taken as the baseline and is therefore always 0 in all dummy variables. Since someone can't be captain and coach at the same time, only one dummy variable will be 1 for each vote.

Another variable we have to control for is Nationality. Studies on the judging of Olympic sports like figure-skating and rhythmic gymnastics find evidence that a nationality bias exists. That is, voters seem to positively bias athletes from the same nationality. In the Eurovision Song Contest, nationality biases can't be studied because voters can't vote for the contestant from the same nationality. To control for this nationality bias we use the variable 'Same nationality' which is 0 if voter and player have a different nationality and 1 if they have the same nationality.

Quality is mentioned multiple times in the literature as a variable that influences voting behavior. In theory, the 'Average vote others' could be seen as the quality of a player (Charron, 2013). Because of the way we calculated the biases quality is already included and should not be an explanation for these biases. However, we want be sure of this and will also control for quality of the player. In this case, we measure quality by the amount of goals a player made per match called 'Goals per match (GPM)' and the amount of assists made per match called 'Assists per match (APM)'.

4.4 Statistical methods

First, the biases and cultural diversity scores are calculated for each vote using the mentioned formulas. To understand the relationship between our variables a Pearson correlation analysis will be performed. Correlation refers to the (linear) coherence of two variables and is expressed by the correlation coefficient. This coefficient gives a value between -1 and +1, where 1 is total positive correlation, 0 is no correlation and -1 is total negative correlation. The Pearson correlation coefficient is widely used in science to measure the degree of linear dependence between two variables. However, correlation cannot be used to test the causality of the relationship. To test the effect of cultural diversity on bias a multiple regression analysis will be performed. Quality should in theory not be a predictor of the biases. However, we are interested in the effect of including quality in the analysis. Therefore, we will perform two different multiple regression analysis. The first analysis will not include 'Goals per match' and 'Assist per match', the second analysis will include these variables. Within the first analysis we will first test a model with only the control variables, then cultural diversity will be added in the model. For the second analysis the same structure is used only quality is included in the control variables. In total, four models will be calculated.

5. RESULTS

The biases are calculated for each individual vote. Every voter gives three votes, therefore the dataset contains 1623 votes and 1623 calculated biases. Table 3 includes some statistics and background information on the distribution of bias per player. Since we calculated the biases for all votes were points were given, we show the 'Average bias (received votes)', which is the average bias a player received from the voters he got points from. The table also includes the standard deviation of this average bias and the significance levels of a t-test that was performed to test whether the observed biases are significantly different from zero. The next columns include the average score of the player and his average score on the 'average vote others'.

Table 3

Statistics and background information on biases.

Name	Average Bias (received votes)	Standard Deviation	T-test Sig. (2-tailed)	Average score	Average 'average vote others'	Total score	Amount of Votes
Silva Thiago	2.98	2.31	.082	0.02	0.02	12	4
Iniesta Andrés	2.60	1.75	.000	0.19	0.19	103	37
Pirlo Andrea	2.52	1.50	.000	0.10	0.10	55	21
Bale Gareth	2.48	1.64	.000	0.12	0.12	65	25
Múller Thomas	2.30	1.42	.001	0.04	0.03	21	9
Robben Arjen	2.28	1.50	.000	0.16	015	85	35
Özil Mesut	2.27	1.64	.000	0.06	0.06	35	15
Persie van Robin	2.16	1.42	.000	0.16	0.16	88	38
Lahm Philipp	2.15	1.40	.000	0.07	0.07	40	18
Neymar	2.10	1.50	.000	0.29	0.28	155	65
Touré Yaya	2.10	1.71	.000	0.09	0.08	48	22
Suárez Luis	2.08	1.77	.008	0.04	0.03	19	9
Falcao Radamel	2.03	1.54	.000	0.10	0.09	53	25
Neuer Manuel	2.00	1.42	.296	0.01	0.00	4	2
Xavi	1.93	1.52	.000	0.07	0.07	40	20
Lewandowski Robert	1.88	1.46	.000	0.08	0.08	45	23
Schweinsteiger Bastian	1.87	1.64	.004	0.04	0.04	21	11
Cavani Edinson	1.77	1.40	.003	0.03	0.03	18	10
Ibrahimovic Zlatan	1.72	1.54	.000	0.48	0.47	257	117
Ribéry Franck	1.45	1.66	.000	2.08	2.08	1127	319
Hazard Eden	1.32	0.82	.011	0.01	0.01	8	6
Messi Lionel	0.95	1.46	.000	2.23	2.23	1205	379
Cristiano Ronaldo	0.78	1.60	.000	2.52	2.52	1365	413
All players (total)	1.39	1.65	.000	9	8.92	4869	1623

Table 4

Descriptive statistics and correlations between variables.

	1.	2.	3.	4.	5.	6.	7.
1. Bias	-						
2. Coach	.067**	-					
3. Media	-.058**	-.513*	-				
4. Same Nationality	.208*	.172*	-.085*	-			
5. GPM	-.330*	-.036	.022	-.200*	-		
6. APM	-.036	-.036*	.138*	-.114*	-.227*	-	
7. Cultural diversity	-.109*	-.140*	.102*	-.515*	.153*	.030	-
Mean	1.39	.380	.300	.066	.77	.36	89.26
SD	1.688	.486	.459	.248	.366	.112	45.930
N	900	900	900	900	900	900	900

Notes: *p < .01; **p < .05. SD = Standard Deviation. N = amount of votes.

Because the 'average vote others' depends on the amount of points given in the studied vote and is thus different for each vote, we present an average here. The final columns include the amount of points a player received and from how many people they received these points. At first glance, there seems to be pattern between the amount of votes a player received and the average bias they received. Cristiano Ronaldo, Messi and Ribéry their average bias (received votes) are all relatively low.[4]

However, we also observe players who got a low amount of votes and a relatively low amount of bias. The t-test shows significant difference from zero for most values, except for players who got a very low amount of votes. It is interesting that all players receive high biases and most are significantly different from zero, even for the winner Cristiano Ronaldo. The average vote others is really similar to the average score, except it is a little lower. Because for each vote it is calculated for, the points given in that vote are left out. The final row shows the average bias for all players which is 1.39 with a standard deviation of 1.65 and significantly different from zero. It also shows the sums of the other columns. We can conclude that using our operationalization of bias, voting bias exists in the FIFA Ballon d'Or.

5.1 Correlations

Descriptive statistics and results from the correlation analysis are presented in table 4. Hofstede's scores could be collected for 900 votes, therefore only those votes are used in the analysis. For bias we find, $\mu = 1.39$, $\sigma = 1.688$ and for cultural diversity, $\mu = 89.26$, $\sigma = 45.930$. Even though we use less votes the distribution of biases seems the same as in table 1 ($\mu = 1.39$, $\sigma = 1.65$). The biases have a relatively high standard deviation because they are very dependent on whether one, three or five points were given. We find that the correlation between bias and cultural difference has a negative direction with, $r = -.109$, sig. (1-tailed) = .001. This means that biases seem to increase when cultural diversity goes down. This accompanies our expectation that biases increase when cultures between voters and players are more similar. The chance that this coherence is based on coincidence is 0.1%. Observing the control variables, coach and media seem to have no significant effect on bias. For same nationality we find correlation with a positive direction, $r = .208$, sig. (1-tailed) = .000. For the correlation between bias and goals and assists per match we find, $r = -.330; -.036$, sig. (1-tailed) = .000; .138. Goals per match has a significant correlation coefficient with biases, while assists per match does not.

We observe a moderately strong correlation between same nationality and cultural difference, $r = -.515$, sig (1-tailed) = .000. And a moderately strong correlation between our dummy variables coach and media, $r = -.513$, sig (1-tailed) = .000. These correlations can be indicators for multicollinearity, which occurs when two or more of the independent variables are moderately or highly correlated. Almost every multiple regression analysis involves some degree of multicollinearity, we just have to make sure it doesn't cause any problems in this case. A commonly used measure to detect multicollinearity and its severity, is the variance inflation factor (VIF). This number indicates how much larger the error variance for the unique predictor is, compared to a situation with no multicollinearity. There are multiple interpretations for the VIF, but most suggest that multicollinearity is high when the VIF is over five or ten. Some even suggest that small problems might start to arise when the VIF is over three. When there is absolutely no multicollinearity the VIF is one. We have calculated the variance inflation factors for our independent variables in all models and all VIFs were under two. It seems safe to conclude that there is no problem of multicollinearity. The VIFs can be found in Appendix B.

5.2 Multiple Regression Analysis

Results from the multiple regression analysis are presented in table 5. The analysis has been performed in two ways, first without quality and then with quality included. In the model without quality the analysis has first been performed using only control variables. The model produces an Adj. $R2 = .042$, $F(3, 896) = 14.052$, $p < .001$. When we include cultural diversity, the model produces an Adj. $R2 = .041$, $F(4, 895) = 10.527$, $p < .001$. The adjusted R2 means that the independent variables only explain 4.2% and 4.1% of the variations in the biases. The interesting result is that the adjusted R2 goes down when we include cultural diversity in the model. In this case, cultural diversity does not explain variations in the biases. We do find that same nationality significantly predicted biases in both models, $\beta = 1.379; 1.384$, $p < .001; p < .001$.

The baseline model with quality produces an Adj. $R2 = .134$, $F(5,894) = 28.833$, $p < .001$. After introducing cultural diversity in the model it produces an Adj. $R2 = .133$, $F(6, 893)$, $p < .001$. These models explain more of the variations in the biases, 13.4% and 13.3%. We also see that the adjusted R2 goes down after introducing cultural diversity in the model. Again, cultural diversity does not predict variations in the biases. Same nationality significantly predicted variations in the biases in both models, $\beta = .879; .897$, $p < .001; p < .001$. Goals per match and assists per match also significantly predicted variations in the biases. (Baseline model + quality: -1.492; -1.364, $p < .001; p < .01$. Baseline model + quality with hypothesis: $\beta = -1.496; -1.357$, $p < .001; p < .01$.) Our dummy variables Coach and Media don't significantly predict biases in any model. We can conclude that function (captain, coach or media) doesn't significantly predict biases.

Based on these results, we reject our hypothesis: **Cultural diversity between voter and player has a negative effect on voting bias**. Cultural diversity does not significantly predict voting bias in our model with p= .971 and p= .600.

6. CONCLUSIONS

This bachelor thesis tries to explain voting biases in the FIFA Ballon d'Or 2013 award by studying cultural diversity between voter and player. Evidence is found that voting biases seem to exist in the FIFA Ballon d'Or and are significantly different from zero. However, no significant evidence is found that cultural diversity causes voting bias in the FIFA Ballon d'Or award, or that it could in other association football awards. We do find significant correlations between cultural diversity and voting bias and between same nationality and voting bias. We also find a high correlation between cultural diversity and same nationality.

The results imply that same nationality is a predictor of voting biases, and that the biases that could be explained by cultural diversity are already explained by same nationality. Even though there is a significant correlation between cultural difference and voting bias there is basically no effect when we add cultural diversity to the multiple regression model. The decrease of the Adj. R2 also implies that cultural diversity does not add any explanation to the model. Which can also be explained by

[4] The 'average bias' each player received from all voters, including that each voter technically gave zero points to the players he did not give one, three or five points to, is zero.

cultural diversity explaining the same effect in biases as same nationality does.

It seems like the link between cultural similarity and voting bias in the Eurovision Song Contest only applies when countries are not allowed to vote for people from the same nationality. Voters are allowed to vote for players from the same nationality in the FIFA Ballon d'Or and we find no evidence that cultural voting exists.

Our results seem to imply the same as the studies that researched the judging of Olympic sports, a nationality bias seems to exist. We also ran a separate model including quality that produces the same results as the first model. From this model, it also seems like the quality of players measured as goals and assists per match is a predictor of voting biases. This might be caused by our operationalization of bias

Table 5

Multiple regression analysis to explain biases in voting behavior.

	Baseline model	Baseline Model with hypothesis	Baseline model + quality	Baseline model + quality with hypothesis
	ß	ß	ß	ß
Control Variables				
Coach	.055	.055	.041	0.043
Media	-.119	-.119	-.078	-.081
Same nationality	1.379*	1.384*	.879*	.944*
Goals per match			-1.492*	-1.496*
Assists per match			-1.364**	-1.357**
Hypothesis				
Cultural diversity		0.00		.001
Adj. R2	.042	.041	.134	.133
Df	3,896	4,895	5,894	6,893
F	14.052*	10.527*	28.833*	24.054*
N	900	900	900	900

Notes. * $p < .001$; ** $p < .01$; *** $p < .05$

7. DISCUSSION

The reason why there was no causation found between cultural diversity and voting bias seems to be explained by the same nationality of voter and player. But it might also be explained by other factors. First, the calculation of the biases that we used might not be perfectly suited for a contest like the FIFA Ballon d'Or. The FIFA Ballon d'Or has a lot more voters than the Eurovision Song Contest. Also, these voters only award one, three or five points while a country in the ESC awards 1,2,3,4,5,6,7, 8, 10 or 12 points. This causes the biases in our calculation to be very dependent of the amount of points given. For most players, receiving five points automatically leads to a high bias while receiving one point leads to a low bias. Another explanation might be the fact that only data from one year was used in this analysis. This year might have been an exception compared to other years, and bias might be more accurately calculated over multiple years. Other explanations might also be more accurately presented over multiple years.

7.1 Future research

For future research, we suggest to look at the operationalization of biases. A different operationalization of biases might lead to a more robust analysis. Also, the link between nationality and voting bias that we find is very interesting and could be researched using a bigger population. Furthermore, our results seem to imply that cultural diversity only increases voting biases when voters can't vote for people from the same nationality. This is a very interesting result, but more research has to be done on this topic to draw real conclusions about this connection.

8. APPENDICES

On the next page the table representing background information on the players and the GPM and APM calculations is presented in Appendix A. Appendix B presents the Variance Inflation Factors (VIF).

Appendix A

Background information of players and the GPM and APM calculations

Name	Nationality	Age	Team	Position	C. matches	C. goals	C. assists	I. matches	I. goals	I. assists	GPM	APM
Bale Gareth	Wales	24	Tottenham Hotspur	Right wing	34	25	15	5	2	1	0,69	0,41
Cavani Edinson	Uruguay	27	SCC Neapel	Centre Forward	38	28	5	8	4	2	0,70	0,15
Cristiano Ronaldo	Portugal	29	Real Madrid	Left wing	47	57	17	8	9	1	1,20	0,33
Falcao Radamel	Colombia	28	Atlético Madrid	Centre Forward	38	23	1	2	1	0	0,60	0,03
Hazard Eden	Belgium	23	FC Chelsea	Left wing	46	13	13	9	3	1	0,29	0,25
Ibrahimovic Zlatan	Sweden	32	FC Paris Saint-Germain	Centre Forward	42	32	14	10	9	2	0,79	0,31
Iniesta Andrés	Spain	30	FC Barcelona	Central Midfield	50	4	12	19	0	2	0,06	0,20
Lahm Philipp	Germany	30	FC Bayern München	Right-Back	45	0	17	10	0	3	0,00	0,36
Lewandowski Robert	Poland	25	Borussia Dortmond	Centre Forward	49	35	13	10	3	2	0,64	0,25
Messi Lionel	Argentina	26	FC Barcelona	Centre Forward	40	39	13	2	3	2	1,00	0,36
Múller Thomas	Germany	24	FC Bayern München	Right Wing	44	23	15	9	6	2	0,55	0,32
Neuer Manuel	Germany	28	FC Bayern München	Goalkeeper	46	0	0	8	0	0	0,00	0,00
Neymar	Brazil	22	Santos FC	Left Wing	42	18	20	19	10	12	0,46	0,52
Özil Mesut	Germany	25	Real Madrid	Attacking midfield	44	8	22	9	3	6	0,21	0,53
Pirlo Andrea	Italy	35	Juventus FC	Central Midfield	40	4	5	13	2	3	0,11	0,15
Ribéry Franck	France	31	FC Bayern München	Left Wing	39	15	18	10	5	8	0,41	0,53
Robben Arjen	Netherlands	30	FC Bayern München	Right Wing	40	20	17	10	5	5	0,50	0,44
Schweinsteiger Bastian	Germany	29	FC Bayern München	Central Midfield	38	5	10	3	0	2	0,12	0,29
Silva Thiago	Brazil	29	FC Paris Saint-Germain	Centre Back	24	0	1	12	1	0	0,03	0,03
Suárez Luis	Uruguay	27	Liverpool FC	Centre Forward	26	23	10	10	5	1	0,78	0,31
Touré Yaya	Ivory Coast	31	Manchester City	Central Midfield	34	10	5	4	2	1	0,32	0,16
Persie van Robin	Netherlands	30	Manchester United	Centre Forward	38	23	9	10	10	4	0,69	0,27
Xavi	Spain	34	FC Barcelona	Central Midfield	41	5	10	12	1	0	0,11	0,19

Notes: C. matches, C. goals and C. assists refer to the amount of matches played, goals scored and assists given at the club the player played at. I. matches, I. goals, I. assists refer to the amount of matches played, goals scored and assists given during international games. The amount of goals per match (GPM) is calculated by as follows: $\frac{(C.goals+I.goals)}{C.matches+I.matches}$. The amount of assists per match (APM) is calculated as follows: $\frac{(C.assists+I.assists)}{C.matches+I.matches}$.

Appendix B

Variance Inflation Factors (VIF) for the independent variables.

Independent variables	Baseline model	Baseline Model with hypothesis	Baseline model + quality	Baseline model + quality with hypothesis
Coach	1.387	1.389	1.390	1.391
Media	1.356	1.359	1.369	1.372
Same nationality	1.030	1.381	1.096	1.439
Goals per match			1.117	1.119
Assists per match			1.107	1.108
Cultural difference		1.369		1.375

9. REFERENCES

9.1 Lecture

BBC. (2008, December 2). *Ronaldo joins legendary list*. Retrieved from http://news.bbc.co.uk

BBC. (2013, November 20). *Cristiano Ronaldo: Portugal forward praised after fifth hat-trick*. Retrieved from http://www.bbc.com

ESPN. Staff (2013, November 20). *FIFA extend Ballon d'Or voting deadline*. Retrieved from http://www.espnfc.com

FIFA. (2004, October 6). *Thirty-five stars make Zurich shortlist*. Retrieved from http://www.fifa.com

FIFA. (2014). *The birth of the FIFA Ballon d'Or*. Retrieved from http://www.fifa.com

Jakobsen. (2011, January 11). *The Ballon d'Or Controversy*. Retrieved from http://www.totalbarca.com

Menezes, J. (2013, October 29). *Fifa 2013 Ballon d'Or shortlist – the rundown of the 23 men nominated for the world player of the year award*. Retrieved from http://www.independent.co.uk

Napit. (2013). *FIFA World Player of the Year Award*. Retrieved from http://www.napit.co.uk

RSSSF. (2013). *World Player of the Year – Winners*. Retrieved from http://www.rsssf.com

9.2 Literature

Campbell, B., Galbraith, JW. (1996). *Nonparametric tests of the unbiasedness of Olympic figure-skating judgments*.Statistician 45:521–526

Charron, N. (2013). *Impartiality, friendship-networks and voting behavior: Evidence from voting patterns in the Eurovision Song Contest*. Social Networks, 35: 484-497

Fenn, D., Suleman, O., Efstathiou, J., Johnson, NF. (2006). *How does Europe make its mind up? Connections, cliques and compatibility between countries in the Eurovision Song Contest*. Phys A 360:576–598

Garcia, D., Tanase, D. (2013). *Measuring Cultural Dynamics through the Eurovision Song Contest*. World Scientific Publishing Co. Pte Ltd

Ginsburgh, V., Noury, A. (2008). *The Eurovision Song Contest: is voting political or cultural*? European Journal of Political Economy 24 (1), 41–52.

Ginsburgh, VA., VanOurs, JC. (2003). *Expert opinion and compensation: evidence from a musical competition*. Am Econ Rev 93:289–296

Haan, MA.,, Dijkstra, G., Dijkstra, PT. (2005). *Expert judgement versus public opinion—evidence from the Eurovision Song Contest*. J Cult Econ 29:59–78

Hofstede, G. (2000). *Culture's Consequences*. Sage Beverly Hills, California.

Hofstede, G. (1991). *Culture and Organizaitons*. McGraww-Hill, London.

Popovic, R. (2000). *International bias detected in judging rhythmic gymnastics competition at Sydney-2000 Olympic Games*. Phys Educ Sport 11:1–3

Spierdijk, L., Vellekoop, M.l. (2009). *The structure of bias in peer voting systems: lessons from the Eurovision Song Contest*. Empirical Economics 36, 403–425.

Yair, G. (1995). *Unite Unite Europe. The political and cultural structures of Europe as reflected in the Eurovision Song Contest*. Soc Netwrks 17:147–161

Zitzewitz, E. (2006). *Nationalism in winter sports judging and its lessons for organizational decision making*. J Econ Manage Strategy 15:67–99