



Is football coming out? Anti-gay attitudes, social desirability, and pluralistic ignorance in amateur and professional football

Georg Kanitsar^{a,b,*}, Katharina Pfaff^c

^a Vienna University of Economics and Business, Institute for Sociology and Social Research, Welthandelsplatz 1, 1020, Vienna, Austria

^b Institute for Advanced Studies, Josefstädter Straße 39, 1080, Vienna, Austria

^c University of Vienna, Department of Government, Kolingasse 14-16, 1090, Vienna, Austria

ARTICLE INFO

Keywords:

Anti-gay attitudes
Football
Social norms
Social desirability
Pluralistic ignorance

ABSTRACT

Past work consistently points to improved attitudes towards gay athletes and growing support for homosexuality, yet reports of a homophobic climate in amateur and professional football persist. Here, we explore two potential explanations for the prevalence of homophobia in football despite low levels of anti-gay attitudes: social desirability and pluralistic ignorance. We conduct an online survey among a football-affine and socio-demographically diverse sample in the UK. We find that anti-gay attitudes are rare. Importantly, estimates from a list experiment do not differ from the prevalence measured by direct questions, providing no evidence of social desirability. By contrast, second-order beliefs about anti-gay attitudes substantially and consistently exceed attitudes, pointing towards pluralistic ignorance as the most likely explanation. We conclude by emphasizing the need for transparent communication to reduce pluralistic ignorance and correct misperceptions among players, officials and supporters.

1. Introduction

Recent decades have witnessed a liberalisation of attitudes towards homosexuality in economically developed countries. In the UK, the share of people who agree that homosexuality is ‘not wrong at all’ has steadily increased from the 1980s to the 2010s from 14 to 53 per cent (Clements and Field 2014; Collins et al. 2023), and similar trends are observable in other Western societies (Adamczyk and Pitt 2009; Gerhards 2010; Loftus 2001; Silva 2019).

Emulating this trend, albeit with some delay, growing inclusivity and support for diversity have been documented in football (Cleland 2015; Cleland et al., 2023; Magrath 2018, 2021; Magrath et al. 2015; Roberts et al. 2017). At the turn of the last century, football was still considered the last ‘bastion of homophobia’, providing a hostile environment for those who did not align with stereotypes of masculinity (Magrath and Anderson 2022). Over the last decades, however, attitudes towards homosexuality have become more progressive among players, officials, and spectators (Bush et al. 2012). Cashmore and Cleland (2012), for instance, found that 93 per cent of the supporters give no place to homophobia in football. Likewise, gay athletes coming out largely report acceptance and even public acclaim rather than defamation and ostracism (White et al. 2020).

At the same time, however, the number of out gay players in top-flight football remains exceptionally low (Magrath and Anderson 2022; Walser et al. 2022). Similarly, reports about homonegative experiences and pejorative remarks among amateur players persist

* Corresponding author. Vienna University of Economics and Business, Institute for Sociology and Social Research, Welthandelsplatz 1, Gebäude D4, 3. Stock, 1020, Vienna, Austria

E-mail address: georg.kanitsar@wu.ac.at (G. Kanitsar).

<https://doi.org/10.1016/j.ssresearch.2023.102947>

Received 3 April 2023; Received in revised form 27 October 2023; Accepted 27 October 2023

Available online 8 November 2023

0049-089X/© 2023 The Authors. Published by Elsevier Inc. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

(Hartmann-Tews et al. 2020; Smits et al. 2021). Thus, despite significant improvements in anti-gay attitudes, many still report a homophobic climate in football that, on the one hand, contributes to holding gay players back from coming out and, on the other hand, discourages them from taking part in the game in the first place (Magrath and Anderson 2022).

Here, we explore two potential explanations for the prevalence of homophobia in football despite low levels of anti-gay attitudes: social desirability and pluralistic ignorance. According to the first, homophobia may increasingly be seen as socially undesirable and stigmatised in light of normative change. Thus, prior work using direct questioning techniques to identify anti-gay attitudes could be prone to social desirability bias and may have underestimated the true level of homophobia (Beyer and Liebe 2015; Mize and Manago 2022). According to the second, the lack of communication about homosexuality could upwardly bias beliefs about others' attitudes. As people overestimate the actual degree of homophobia, unpopular social norms may prevail even though their actual support is minimal and many disagree privately.

To test these explanations, we conducted an online survey among a socio-demographically diverse sample of 1215 male respondents in the UK, who indicated being a fan of an English Premier League team and having actively played football. Participants responded to statements about the general acceptance of homosexuality as well as specific practices involving gay players. Most importantly, we compare anti-gay attitudes as measured by direct questions with anti-gay attitudes as elicited by a list experiment (social desirability) and second-order beliefs about the anti-gay attitudes of others (pluralistic ignorance).

We find that the level of open anti-gay attitudes in amateur and professional football is low but varies between general and specific statements as well as according to socio-demographic characteristics. That is, only 2 to 4 per cent of the respondents state that gay players should not play football, while up to 12 per cent rejected direct contact with gay (co-)players or tolerate the use of homophobic language in chanting or on the field. Moreover, anti-gay attitudes correlate with age, religiosity, migration background, a conservative political ideology and low generalised social trust.

Most importantly, we find no evidence of a social-desirability effect and hidden homophobia as the prevalence of anti-gay attitudes estimated from the list experiment does not significantly differ from the prevalence measured through direct questions. By contrast, second-order beliefs about anti-gay attitudes substantially and consistently exceed attitudes, pointing to pluralistic ignorance as a likely explanation for why football continues to be regarded as homophobic.

The 2022 World Cup hosted by Qatar once again sparked heated debates about inclusivity and the acceptance of LGBTQ+ people in football (Glas and Spierings 2021; Merino 2013). Due to its international appeal, football in the UK plays a prime role in strengthening and accelerating norm change across the globe but also for future generations. By applying innovative survey techniques, this study suggests that incorrect beliefs about the true extent of anti-gay sentiments in football explain why people still give accounts of a homophobic climate pervading football even though attitudes towards gay athletes are consistently improving. These findings offer clear policy implications regarding how to oppose pluralistic ignorance. Transparent communication and informational campaigns may not only encourage gay athletes but also correct misperceptions among supporters and players.

2. Past work on anti-gay attitudes

2.1. Social desirability

List experiments afford participants an additional layer of anonymity and reduce the so-called social-desirability bias involved in direct questioning (Fisher 1993). Using list experiments, social desirability has been identified in various socially sensitive domains, such as racism, sexuality, and illegal behaviour (Blair et al. 2020; Chuang et al., 2021; Krumpal 2013). In light of social change, it might be that not homosexuality, but rather homophobia is now socially disapproved of (McCormack and Anderson 2010). People perhaps fear being identified as homophobic (Piedra et al. 2017) and therefore respond to questions on the topic with a bias towards social norms.

Indeed, a recent study shows that respondents are 67 per cent more likely to report being unhappy with a gay manager and 45 per cent more likely to disapprove of adoption by same-sex couples in a list experiment compared to direct questions (Coffman et al. 2016). Using the same technique, Rayburn et al. (2003) show that the levels of anti-gay hate crimes are higher when respondents' involvement in anti-gay activities is captured through an anonymous unmatched-count technique as opposed to the conventional self-reporting of anti-gay behaviour. Insofar as homophobia is socially frowned upon and not directly disclosed, previous research may have underestimated its prevalence and provided an overly optimistic account of a 'pseudo-inclusive climate' (Piedra et al., 2017) in football.

2.2. Pluralistic ignorance

A rich literature on social norms highlights that attitudes and behaviour are strongly influenced by second-order beliefs – that is, beliefs about what others think is appropriate (Bicchieri 2006). Yet, own attitudes and beliefs about the attitudes of others need not align. Pluralistic ignorance arises if one's private feelings and attitudes differ from one's expectations about the feelings and attitudes of others, even though public behaviour is identical (Allport 1924; Bicchieri and Fukui 1999). Consequently, unpopular social norms are upheld even though their support is weak and people actually disagree with them privately. Recent research hints at strong discrepancies between one's anti-gay attitudes and the anti-gay attitudes held by most others among men (Sobotka 2022) and college students (Bowen and Bourgeois 2001).

Pluralistic ignorance may matter especially in football due to non-transparent communication (Bicchieri and Fukui 1999). Homophobic language – even without hostile intent – might reinforce inaccurate expectations and, thus, falsely perpetuate social norms

of homophobia. Furthermore, the lack of communication among those who remain indifferent to the topic leaves no reliable way to assess others' true attitudes and might lead to a misinterpretation of behaviour. To the most extreme, people may be more influenced by a few openly anti-gay positions than by the silent majority, specifically as people tend to better recall extreme opinions and, hence, overestimate their frequency (Madan et al. 2014). Eventually, people may be hesitant to speak out publicly and may even display more homophobic behaviours than they would if they were aware of the true beliefs of fellow fans.

2.3. Domain specificity

Anti-gay attitudes may further be manifest in different domains of football. Empirical research suggests that nowadays, people see homosexuality as less of a moral problem and have become increasingly tolerant and acceptant of gay players (e.g., Cleland et al., 2023; Magrath et al., 2015; Roberts et al., 2017). Nonetheless, general attitudes might not translate into concrete routines and specific practices. For instance, Magrath (2015) demonstrates that active players may hold a differentiated view of the homosexuality of their co-players, voicing reservations about same-sex marriage but unanimously claiming support for a hypothetical coming out. Likewise, signs of intimacy and emotion among same-sex couples (Piedra et al., 2017) still arouse considerably more disapproval. Even though they may be accepted to the game, gay players might still face implicit – and perhaps unconscious – forms of discrimination (Glas and Spierings 2021; Smits et al., 2021).

A case in point is homosexually-themed language in football chanting (Magrath 2018; Walser et al., 2022). Importantly, language related to homosexuality may not necessarily be perceived as homophobic, rather its interpretation depends on what McCormack calls the 'homohysteria of a setting' (2011). Anti-gay slurs are often interpreted as not deliberately hostile and as 'playful' (Cleland et al., 2023). Still, their meanings remain ambiguous as they are frequently linked to weakness and may constitute microaggressions (Smits et al., 2021). Indeed, a large share of fans and players report having encountered derogatory homonegative language (Cleland et al., 2023; Magrath et al., 2015). Insofar as homophobic views vary across general and specific statements, past research may have underestimated their prevalence by overly focusing on general attitudes about the moral appropriateness of homosexuality rather than people's perspectives on actual practices and behaviours.

2.4. Socio-demographic variation

Finally, anti-gay attitudes and homophobic norms may vary across social and demographic subgroups. Prior research on anti-gay attitudes has already shown that religion and cultural background are prime factors explaining the variations in homophobia across countries (Adamczyk 2017; Adamczyk et al. 2016; Glas and Spierings 2021). Within countries, religiosity, ethnicity, rural areas, and age are most strongly associated with anti-gay attitudes (Coffman et al., 2016; Collins et al., 2023; Herek and Glunt 1993).

In the field of football, however, quantitative evidence on how anti-gay sentiments relate to socioeconomic and demographic characteristics is still scarce, even though Magrath (2015) theorises important interconnection between race, religion and homophobia. Insofar as homophobic views vary between different segments of society, the existing literature may have misestimated the prevalence of anti-gay attitudes by attracting mainly 'white, middle-class, university-educated' respondents to their studies (Magrath 2015, p. 415). Furthermore, a profound understanding of which parts of society still harbour homophobic views is crucial to gauging the impact of demographic developments, such as migration and ageing, on norm change.

3. Research design

We conducted a survey to measure anti-gay attitudes in amateur and professional football. Along with direct questions, the survey combined two innovative approaches to study hidden agreement and second-order beliefs about anti-gay attitudes: a list experiment and a measure of second-order beliefs.

Table 1
Anti-gay statements in football.

Dimension	Indicators
Gay players in general	- I think homosexual people should not be professional football players. - I think homosexual people should not play amateur football.
Gay players in own team	- I would not like it if a player of my favourite team were homosexual . - I would not like it if someone I play football with were homosexual .
Gay players as moral problem	- I would find it morally concerning if many players in professional football came out gay . - I think it would bring down morale in my own football team if many players came out gay .
Homophobic language	- I think it is admissible to call players of the opposing team 'fag' or 'gay' in football chanting if it puts my favourite team at an advantage. - I think it is admissible to call someone I play against 'fag' or 'gay' if it puts me and my team at an advantage.
Gay player holding hands	- I would feel uncomfortable seeing a player of my favourite team holding hands with his same-sex partner in public . - I would feel uncomfortable seeing a player I play football with holding hands with his same-sex partner in public .
Contact with gay players	- I would not wear merchandise from a gay football player . - After a game, I would not stand next to a teammate in the shower if he were gay .

3.1. Anti-gay statements

Drawing on past work, we identified six relevant dimensions and formulated anti-gay statements in amateur and professional football (see [Table 1](#)). The dimensions distinguish between general statements about homosexuality in football on the one hand (1–3) and statements about specific practices involving gay players on the other hand (4–6). The former category involves the rejection of gay players in general (1), a dislike of gay players in one's team (2), and the perception of gay players as a moral problem (3). For specific statements, we asked respondents about their views on homophobic language in football (4), their feelings towards seeing gay players holding hands (5), and their unwillingness to get in close contact with gay players (6).

3.2. List experiment

In the list experiment, participants were randomly assigned to a control and a treatment group (see [Table 2](#)). The control group received a list of four statements, and the treatment group received the same list plus the sensitive statement. Respondents were asked to report the total number of statements that they agreed with but, crucially, without indicating agreement with each statement individually. In doing so, the responder did not need to reveal the sensitive trait, and the researcher can estimate its prevalence at the aggregate by calculating the difference in means between the control and treatment groups. As researchers are unable to perfectly infer the answer to a sensitive statement, the list experiment reduces the tendency to underreport controversial traits and overreport socially approved ones.

We implemented a modified version of the list experiment ([Coffman et al., 2016](#)), where we additionally asked respondents of the control group directly about their agreement with a sensitive statement. This direct question gives us an indicator of openly revealed attitudes. Furthermore, by comparing the prevalence estimated from the list experiment with responses to the direct question, we can estimate the degree to which homophobic attitudes are stigmatised in our sample.

Various studies have documented the benefits of list experiments in eliciting valid and honest replies for socially sensitive topics ([Blair et al., 2020](#); [Coutts and Jann, 2011](#)). The technique is particularly effective as long as 'ceiling effects' and 'floor effects' are prevented ([Glynn 2013](#)). This can be ensured if items are negatively correlated, such that participants are unlikely to agree with either all the sensitive items or none of them, which would perfectly reveal their response to the sensitive statement. The list of items should also not be too short, because short lists are more likely to cause ceiling or floor effects. Conversely, longer lists might be cognitively too demanding and result in inattentiveness and dropout. Additionally, the baseline items should relate to the topic of interest so that respondents are not cued to the sensitive behaviour. To prevent so-called 'contrast effects' ([Kuklinski et al. 1997](#)), research should 'camouflage' the item of interest ([Chuang et al., 2021](#)) such that the baseline items do not evoke substantially greater or less opposition than the sensitive item ([Janus 2010](#), p. 934).

3.3. Second-order beliefs about anti-gay attitudes

Next to attitudes, we also elicited respondents' second-order beliefs about the attitudes of other survey participants. To do so, we randomly drew four of the twelve sensitive items for each respondent and asked respondents to state their beliefs using the following two questions: (1) 'What percentage of study participants really agrees with this statement?' and (2) 'What percentage of study participants has admitted to agree with this statement when asked directly?'. The first question addresses beliefs about the total prevalence of a sensitive statement, and the second question concerns beliefs about the share of people who openly agree with a sensitive statement. In that, this method serves as validation for the list experiment as it examines second-order beliefs about total prevalence (revealed by the item-count technique) and open prevalence (provided by the direct question).

To incentivise honest responses and stimulate cognitive effort ([Bicchieri and Chavez 2010](#)), respondents received a bonus payment if their belief regarding question (1) was in a ± 3 percentage point range of the average belief of other study participants and if their belief about question (2) was in a ± 3 percentage point range of the average response to the direct question.

3.4. Sampling procedure and incentives

We recruited a convenience sample using the professional crowdsourcing platform Prolific.co ([Peer et al., 2017](#)). Participants register online with Prolific.co and may accept invitations for studies based on their descriptions and in full awareness of the rules regarding acceptance and financial compensation. Unlike other crowdsourcing platforms, on Prolific.co, subjects are explicitly recruited for research purposes ([Palan and Schitter 2018](#)). Furthermore, Prolific.co allows researchers to preselect participants based on a number of personal and socio-demographic characteristics, including their lifestyle and interests. We pre-selected football-affine participants, that is, participants who stated in the pre-screening questions that they were a fan of an English Premier League football team and have actively played football at the high school and/or college/university level in a competitive (non-recreational) league. We further restricted our sample to male respondents who resided in the UK at the time of the survey.

Consequently, we were able to cover a non-representative subset of the UK population that is involved in football as supporters of a professional team and was actively playing at a certain point in their life. Importantly, the study was advertised as a survey on 'attitudes in professional and amateur football' and did not mention homophobia until the beginning of the list experiment. Thus, we prevented actively pro-gay respondents from self-selecting into the study and did not deter people who hold anti-gay sentiments.

As participants took part in the survey online and were paid through the crowd-sourcing platform, they were ensured privacy from the researcher and did not have to provide identifying information. Upon accepting the invitation to the study and providing informed

consent, participants were randomly sorted into either the control or the treatment group. The order of the questions was randomised in both experimental groups. After responding to all twelve statements, participants proceeded to the belief-elicitation task and filled in a final questionnaire (see [Appendix B](#) for the full instructions).

The final questionnaire included common socio-demographic measures of age, migration background, education, occupation, residential area, marital status, religiosity, political views and generalised trust. We further formulated questions about the involvement of participants in professional and amateur football, and we enquired about the importance of football in their lives. For professional football, we asked how often they watched football games at the stadium or on TV. For amateur football, we collected information about how actively engaged they were as players at their amateur club, how much time they invested in organisational duties at their club, which league they played in and how long ago they had actively played in a competitive league.

Each respondent received a fixed compensation of £2 and a variable bonus payment of up to £0.50. On average, it took participants 14 minutes and 21 seconds to complete the study. The survey was programmed so that participants had to stay on each page of the list experiment for at least 20 seconds and on each page of the belief-elicitation task for at least 15 seconds. Overall, attrition from the experiment after the pre-screeners was very low, with only four people dropping out. The study and its procedures were pre-registered on the Open Society Foundations platform.¹

4. Data and methods

4.1. Sample

The survey was fielded in six sessions from May 23, 2022 to July 12, 2022, with 1258 participants completing the entire questionnaire. From these, we dropped respondents who showed signs of inattentiveness.² The net sample size is therefore 1215 respondents. A power test indicated that 1082 observations are required to detect significant differences of 10 percentage points between treatments, which is approximately the effect size reported by [Coffman et al. \(2016, p. 3175\)](#) for questions related to dissatisfaction with an out gay manager and discrimination based on sexual orientation.

Even though the final sample is not representative of the UK population, it covers a wide range of socioeconomic backgrounds (see [Table 3](#)). The age of the participants ranged from 18 to 84 years, with an average age of 39 years (standard deviation: 13.2 years). Additionally, 45 per cent of our sample was comprised of individuals under the age of 35 years, which is significantly higher than the corresponding figure of 19 per cent reported in the non-representative EFL Supporters Survey of 2022. Approximately one-fourth of the survey participants reported having a migration background, with 9 per cent belonging to the first generation, a percentage that is lower than the corresponding figure of 17 per cent for the UK population in the 2021 census. We managed to recruit respondents with different educational backgrounds and respondents from both urban and rural residential areas. Most participants reported being employed full-time.

The final questionnaire reconfirms that most participants were highly involved in professional and amateur football (see [Table 4](#)). On average, the participants rated the importance of football in their lives at 8.08 out of 11. Most respondents indicated that they watched their favourite club at the stadium only for a few games or less, and the majority said they followed most games on TV. Regarding experience as active players, the sample is quite diverse as some participants were still active, whereas others stopped playing more than 10 years prior.

Table 2

Wording of the list experiment and the direct question.

Control group	Treatment group
Please indicate how many of the following five statements about amateur football apply to you. We do not want to know which one(s), just how many:	Please indicate how many of the following five statements about amateur football apply to you. We do not want to know which one(s), just how many:
- I think asthmatic people should not be professional football players.	- I think asthmatic people should not be professional football players.
- I think people who are open to bribery should not be professional football players.	- I think homosexual people should not be professional football players.
- I think people who dope should not be professional football players.	- I think people who are open to bribery should not be professional football players.
- I think people not vaccinated against Covid-19 should not be professional football players.	- I think people who dope should not be professional football players.
0 1 2 3 4	- I think people not vaccinated against Covid-19 should not be professional football players.
Please indicate if you agree with the following statement:	0 1 2 3 4 5
- I think homosexual people should not be professional football players.	
Yes No	

¹ Link to the study: https://osf.io/hqj4y/?view_only=65ebff28417b4678a7fc7a5147322d3c.

² Specifically, we dropped 43 respondents, whose last click before submitting their response in the list experiment occurred within 5 s of opening the page.

Table 3
Descriptive statistics.

	Percent/Average	N
Age	39.02	1214
Migration Background		
No	76.69%	931
Yes	23.31%	283
Residential Area		
Big City	45.13%	547
Town or Small City	42.16%	511
Countryside	12.71%	154
Education		
Low (High School and Less than High School)	23.62%	287
Middle (College or Vocational)	34.16%	415
High (Graduate Degree)	41.89%	509
Other	0.33%	4
Occupation		
Full Time	73.91%	898
Other (Part Time, Student, Unemployed, Parental Leave)	26.09%	317
Generalised Trust (1 = Low; 11 = High)	6.14	1215
Political View (1 = Liberal; 4 = Conservative)	2.22	1212
Religiosity (1 = Not Religious; 11 = Very Religious)	3.07	1213

Table 4
Football activities in the sample.

	Percent/Average	N
Football Importance (1 = Not; 11 = Very)	8.09	1210
How often watch football at stadium		
Almost every game	6.69%	81
Most games	11.48%	139
Few games	55.41%	671
No Games	26.42%	320
How often watch football on TV or at stadium		
Almost every game	44.31%	537
Most games	39.36%	477
Few games	15.92%	193
No Games	0.41%	5
How long ago actively played football		
Still active	18.52%	225
Less than 2 years	13.09%	159
2–5 years	17.61%	214
5–10 years	15.80%	192
More than 10 years	34.98%	425
How much time a week playing		
More than 3 days a week	7.65%	93
1–3 days a week	61.81%	751
1 day every second week	11.28%	137
Less than 1 day every second week	19.26%	234
How much time organizing		
A lot of time	9.06%	110
A little	43.33%	526
None at all	47.61%	578

4.2. Analytical strategy

For each indicator, we tested for differences between means in the list experiment. To do so, we denoted as y_{Tqi} the number of statements (out of five) reported that are true for question q for individual i in the treatment group T . In the control group, c_{qi} describes the number of statements (out of four) a respondent agrees with, and d_{qi} represents the response to the direct question, where d_{qi} equals 1 if i agrees with a statement and 0 otherwise. As a result, $y_{Cqi} = c_{qi} + d_{qi}$ describes the number of statements (out of five) that are true for a respondent randomly sorted into the control group. To estimate the prevalence of agreement to each sensitive item q in the list experiment, we compared $E[y_{Tqi}] - E[c_{qi}]$, the difference in means between lists in the treatment and control groups. To estimate social desirability, we compared $E[y_{Tqi}] - E[c_{qi}]$ to $E[d_{qi}]$, the expected prevalence according to the direct question. Insofar as the former term exceeded the latter, direct-question formats are prone to social-desirability bias and underreporting.

We estimated the effect of control variables using regression techniques. To increase statistical power, we followed the strategy laid out by Coffman et al. (2016) and summarised the responses to two indices for general statements and specific statements $d = \{g, s\}$. In

particular, we calculated the effect on the direct question using $d_{di} = \beta_0 + \beta_j X_{ij} + \varepsilon_i$, the effect on prevalence as measured by the list experiment using $E[y_{Tdi}] - E[c_{di}] = \beta_0 + \beta_j T_i X_{ij} + \varepsilon_i$, the effect on social desirability using $E[y_{Tdi}] - E[y_{Cdi}] = \beta_0 + \beta_j T_i X_{ij} + \varepsilon_i$, and the effect on beliefs about prevalence bp_{di} and beliefs about openness bo_{di} using $bp_{di} = \beta_0 + \beta_j X_{ij} + \varepsilon_i$ and $bo_{di} = \beta_0 + \beta_j X_{ij} + \varepsilon_i$.

The dependent variables in models 1–3 are aggregated indices from six individual items. Even though the underlying items are count variables (see Appendix Figure A1), we employ linear regression techniques. To test the robustness of our results, we also estimated Poisson regression models. Pearson goodness-of-fit tests were insignificant, indicating that the Poisson model fits reasonably well and the overdispersion parameters suggest no statistically significant difference between a negative binomial distribution and a Poisson distribution. As the results of the linear regression model and the Poisson regression models are qualitatively similar, we present the former below because its slope coefficients are readily interpretable (Janus 2010). The results of the Poisson regression model are reported in Appendix Table A3.

5. Results

5.1. Anti-gay attitudes in football: open and hidden

Overall, our survey shows that the overwhelming majority does not hold open anti-gay attitudes in amateur and professional football (see Fig. 1, red bars). Less than 2 per cent of the respondents state that gay players should not play amateur and professional football. Similarly, only 4–5 per cent do not want to have a gay player in their favourite team or their amateur team. For specific statements, disapproval is higher. Notably, 6 per cent of the participants consider it admissible to use homophobic language in football chanting or on the pitch. Roughly 10 per cent disapprove of gay players holding hands publicly, 10 per cent said they would not buy merchandise from gay football players, and 12 per cent would not stand next to a gay teammate in a communal shower. These estimates indeed suggest that anti-gay attitudes in amateur and professional football have been marginalised and play a role only for a very small fraction of football fans and active players.

To assess the degree to which homophobic statements are socially stigmatised and, thus, underreported in direct questions, we conducted a list experiment (see Fig. 1, blue bars). Like the direct question, the list experiment reports very low levels of anti-gay attitudes. Only one of the six estimates for general statements is positive, and none is significantly different from 0. For specific statements, we find that 13 and 11 per cent of respondents find homophobic language admissible in amateur and professional football, respectively. Furthermore, the estimates from the list experiment show that approximately 11 per cent of the respondents disapproved of close contact with gay (co-)players. The estimates for holding hands are not different from 0 at the conventional level of statistical significance. Most crucially, however, none of the estimates from the list experiment significantly differs from the estimates of the direct question. This suggests that social desirability concerns do not matter in this setting.

While we find that open homophobia in football is low and hidden homophobia is non-existent, we detect important variations across different domains. The respondents seem overwhelmingly supportive of gay players and very few regard them as a moral concern. At the same time, however, the use of anti-gay language receives far less disapproval, and homophobic sentiments are more pronounced if placed in the context of concrete practices and behaviours. This is underscored by the close consistency of prevalence estimates from the two measurement methods, the direct question and the list experiment, as well as across the two domains, amateur and professional football.

5.2. Second-order beliefs about anti-gay attitudes

Participants also stated second-order beliefs about the attitudes of other survey participants (see Fig. 2). Across all indicators, second-order beliefs considerably exceed attitudes. That is, participants thought that more than 20 per cent of the sample would not approve of gay players in football in general and more than 25 per cent would not approve of gay players on their own team (blue bars). These numbers exceed the actual prevalence by approximately 20 percentage points. For specific statements, respondents wrongfully believed that roughly one-third of the other survey participants have homophobic tendencies, again overestimating their actual tendencies by 20 percentage points.

Comparing second-order beliefs about open anti-gay attitudes (red bars) and total anti-gay attitudes (blue bars) shows differences below 10 percentage points for all indicators. This implies that participants expect others to partly conceal their homophobic opinions. The difference, however, is minimal, in particular if we consider that the survey deliberately pointed participants to the possibility of discriminating between the two entries. Thus, we take these findings as reconfirming that not just hidden homophobia but also beliefs about hidden homophobia are marginal.

Finally, beliefs follow a similar pattern across general and specific statements as attitudes. That is, differences between general and specific statements are roughly in the range of those identified with the direct question and the list experiment. Like for attitudes, there are no significant differences between second-order beliefs in amateur and professional football. Overall, this suggests that the patterns across statements are consistent for attitudes and beliefs. What differs is the level, and beliefs considerably exceed attitudes.

5.3. Heterogeneity

To estimate the effects of socio-demographic characteristics on anti-gay attitudes and beliefs, we aggregated the individual items into two indices. Table 5 shows the effect on the index of specific statements, which summarises views on homophobic language,

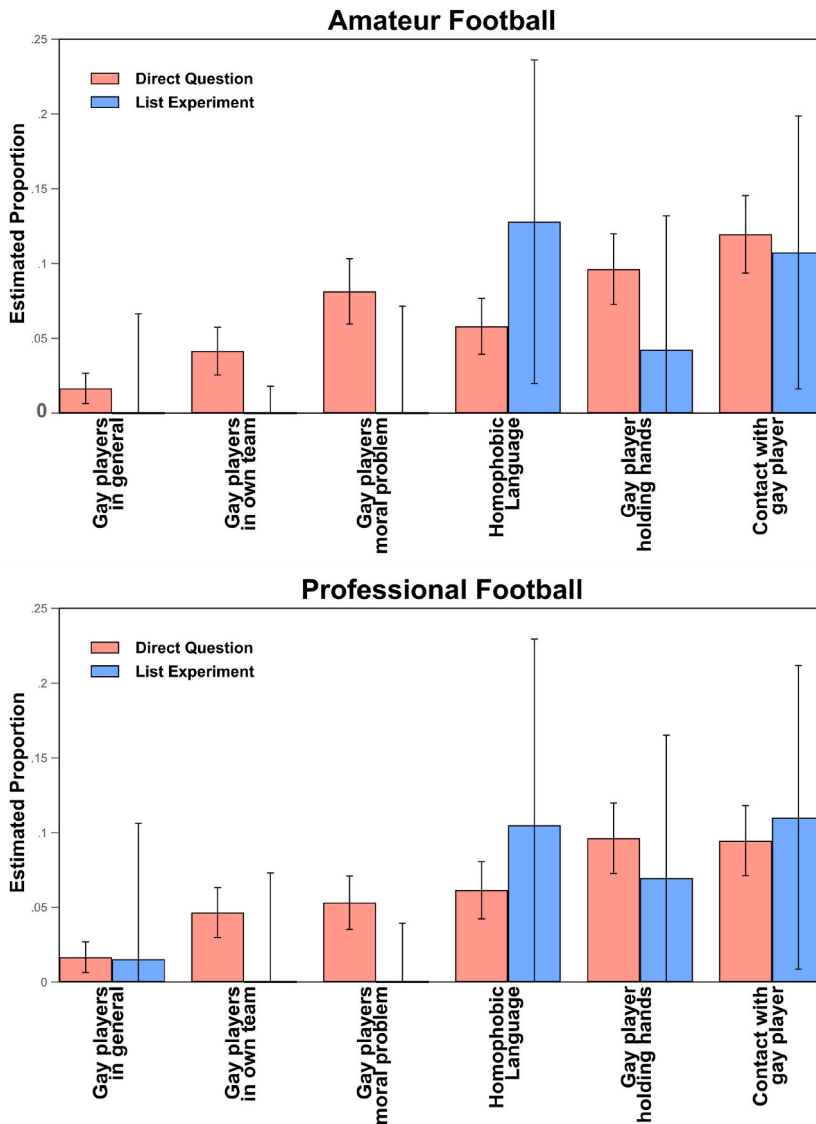


Fig. 1. Anti-gay attitudes

Notes: Values are cut at zero. Negative values are not reported. The error bars show 95% confidence intervals. See Appendix Table A1 for estimates and statistical tests.

disapproval of gay players holding hands and aversion to close contact with gay (co-)players in amateur and professional football. Appendix Table A2 reports the effects on the index of general statements summarising the responses to items 1–3 for amateur and professional football.

The regression table illustrates strong statistical associations of socio-demographic variables with anti-gay attitudes measured by the direct question. Respondents with a migration background were 4 per cent more likely to express anti-gay attitudes than the majority population. Appendix Table A4 further corroborates that anti-gay attitudes were higher in the migrant population than in the native population. Likewise, a ten-year increase in age raises the likelihood of homophobic statements by 1.7 per cent, whereas there was no difference with regard to the residential areas of the respondents.

The second model also reveals a socioeconomic gradient of anti-gay attitudes. Thus, respondents at lower educational levels were more likely to disapprove of homosexuality in football compared to respondents at a high educational level (la Roi and Mandemakers, 2018), as were those who were not in full-time employment. Finally, the strongest and most consistent effects are observed in the third set of variables. Anti-gay attitudes were higher among participants who were more religious, had conservative political views and showed lower levels of generalised social trust. The effects on the index of general statements were reproduced at conventional levels

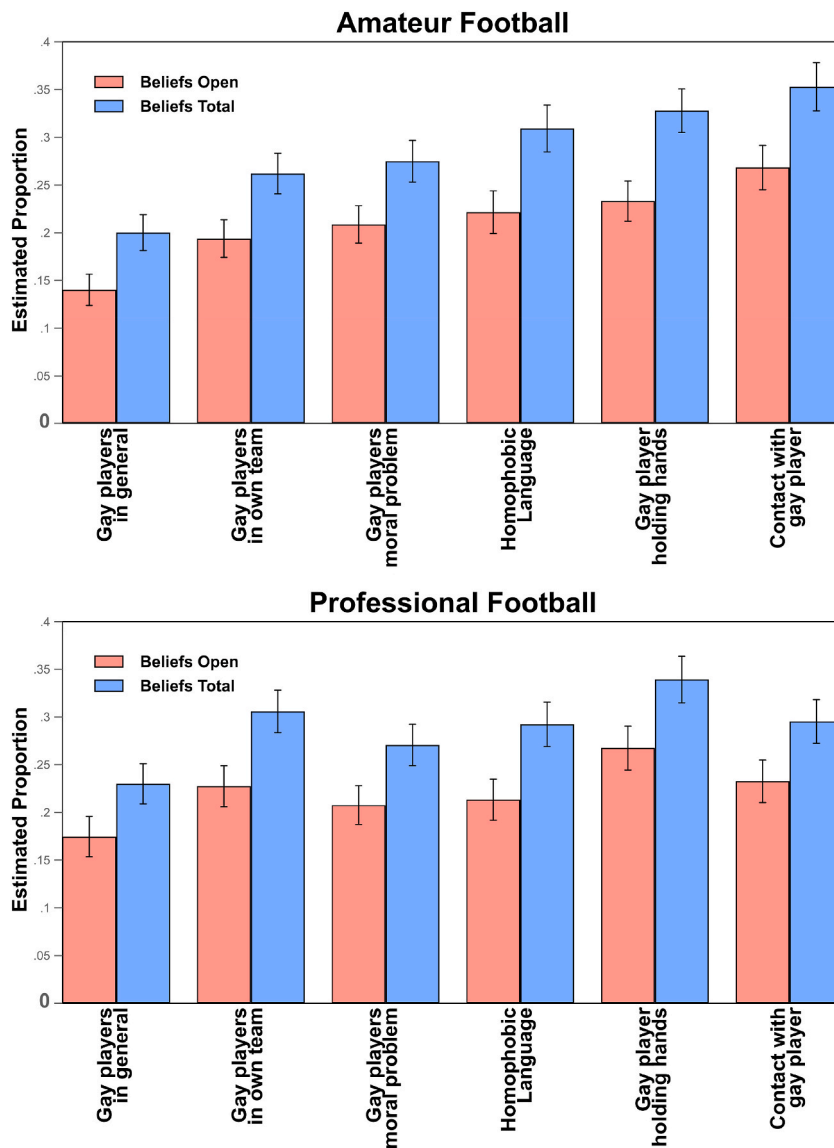


Fig. 2. Second-order beliefs about anti-gay attitudes

Notes: The error bars show 95% confidence intervals. See Appendix Table A1 for estimates and statistical tests.

of statistical significance for religiosity, migration background, political views and occupation but not for age, education and generalised social trust, most likely due to less variation in the outcome variable (see Appendix Table A2).³

Some of these effects are substantiated by the list experiment. Specifically, the list experiment confirms that more conservative and less trusting individuals were more likely to agree with homophobic statements. Apart from this, we do not find statistically significant relationships between socio-demographic variables and anti-gay attitudes measured by the list experiment. Finally, no statistical associations with social desirability are detected.

Some findings for attitudes also hold for beliefs about homophobia. Older people and those with a migration background gave higher estimates of anti-gay attitudes among football supporters. Yet, there seem to be few differences in terms of socioeconomic status, except that highly educated respondents believe that people are more hesitant to admit their agreement with anti-gay statements. Religious respondents also expected others to hold similarly homophobic views. By contrast, conservative and untrusting respondents were more inclined to disapprove of homosexuality but did not hold more erroneous beliefs about the prevalence of anti-gay attitudes in the population.

³ Appendix Table A5 shows that anti-gay attitudes and beliefs about anti-gay attitudes did not systematically vary across 12 regions in the UK.

Table 5
Effects of socio-demographics on index of specific statements.

	(1) Direct Question	(2) List Experiment	(3) Social Desirability	(4) Beliefs Total	(5) Beliefs Open
Migration Background (Ref.: No)					
Yes	4.19** (1.96)	2.91 (6.93)	-1.28 (7.37)	3.32** (1.62)	3.08** (1.48)
Age (in decades)	1.79*** (0.67)	1.66 (2.31)	-0.13 (2.48)	1.50*** (0.51)	1.32*** (0.46)
Residential Area (Ref.: Big City)					
Town or Small City	0.93 (1.61)	8.57 (6.02)	7.64 (6.31)	-1.43 (1.43)	1.56 (1.31)
Countryside	3.34 (3.01)	6.65 (9.75)	3.32 (10.87)	3.23 (2.03)	2.29 (1.77)
Observations	599	1210	1210	1169	1169
R-squared	0.02	0.01	0.01	0.01	0.01
Education (Ref.: Low)					
Mid	-4.54 (2.34)	6.95 (7.75)	11.50 (8.28)	-0.36 (1.74)	-1.42 (1.68)
High	-4.81** (2.28)	4.55 (7.59)	9.36 (8.18)	0.74 (1.75)	-3.11 (1.59)
Occupation (Ref.: Full-Time)					
Other	6.52*** (2.22)	2.47 (6.71)	-4.05 (7.17)	0.30 (1.50)	0.92 (1.40)
Observations	602	1215	1215	1174	1174
R-squared	0.04	0.01	0.01	0.00	0.01
Religiosity	1.49*** (0.38)	1.02 (1.20)	-0.47 (1.32)	0.68** (0.27)	0.68*** (0.25)
Political View	5.17*** (1.14)	8.69** (4.30)	3.52 (4.61)	-0.16 (0.92)	0.83 (0.83)
Generalised Trust	-1.39*** (0.34)	-3.46** (1.49)	-2.07 (1.59)	-0.47 (0.31)	-0.38 (0.29)
Football Importance	-0.07 (0.36)	0.57 (1.56)	0.64 (1.66)	-0.39 (0.32)	-0.20 (0.31)
Observations	596	1205	1205	1165	1165
R-squared	0.13	0.02	0.01	0.01	0.01

Estimates from OLS regressions with robust standard errors in parentheses. Column 1 reports the main effects of the variables on the direct question. Column 2 and 3 report the coefficients for the interaction effect between treatment and socio-demographic variables (main effects are not reported). Not reported: Constant, Education: 'Other'. *** $p < 0.01$, ** $p < 0.05$.

6. Discussion and conclusion

Here, we studied attitudes and second-order beliefs about homophobia among football fans and amateur players by administering an online survey including a list experiment and a belief-elicitation task to a socio-demographically diverse sample of football aficionados in the UK. The survey suggests that anti-gay attitudes are rare and hidden homophobia is absent.

Our findings about diminishing anti-gay attitudes are in line with recent works on homophobia in general (Adamczyk 2017; Collins et al., 2023; Gerhards 2010) and in football in particular (Cashmore and Cleland 2012; Magrath and Anderson 2022). Our results further alleviate concerns that past research may have been biased by the self-selection of interviewees holding pro-gay views and by direct questioning techniques. We recruited participants who were unaware of the topic of the survey when signing up, and we used list experiments to reduce social-desirability bias. Yet, the conclusions we arrive at about the magnitude of anti-gay attitudes are quite similar to those of prior research.

However, we find that anti-gay attitudes were stronger in the context of tangible practices and concrete routines involving gay (co-) players, such as football chanting or close contact (Magrath 2018; Walser et al., 2022). Approximately one-tenth of the participants express reservations about getting into contact with gay players, dislike gay players holding hands in public and regard homophobic language as permissible. This tendency was observed consistently for attitudes and beliefs for both amateur and professional football, indicating the robustness of the pattern. Given that past research has overly addressed generic and broad anti-gay statements, the prevalence of homophobia in specific circumstances may have been underestimated. Future work should acknowledge this multi-faceted nature of anti-gay attitudes and behaviours to arrive at more differentiated conclusions about the domains in which homophobia still plays a role.

Unlike past work using list experiments in online surveys for sensitive topics (Chapkovski and Schaub 2022; Coutts and Jann, 2011), our study does not detect evidence of a social-desirability bias. Our findings thus conflict with those of Coffman et al. (2016), who reported substantial differences in anti-gay sentiments between direct questions and list experiments in an online sample recruited via Amazon's Mechanical Turk, which provides a level of privacy and anonymity similar to Prolific.co. This discrepancy could be a result of different contexts – the workplace and football – or different periods as their study was fielded ten years before ours. By

contrast, our research is in keeping with a study by [Lax et al. \(2016\)](#), which suggests that the degree to which social desirability biases survey results about opposition to same-sex marriage might be limited.

The present survey also demonstrates that socio-demographic variations in anti-gay attitudes identified by representative studies extend to the social field of football. Amongst the strongest predictors of anti-gay attitudes in football are age, religion, migration background, and political ideology ([Coffman et al., 2016](#); [Collins et al., 2023](#); [Hooghe et al., 2010](#); [Loftus 2001](#)). These findings corroborate the notion that the decline in homophobia proceeds unevenly across different religions, social classes and ethnic groups ([Magrath 2015](#)). In addition, we report the first evidence that lower generalised social trust is associated with homophobic views. Given the importance of interpersonal contact experiences for eliminating negative stereotypes ([Herek and Glunt 1993](#)) as well as nurturing generalised social trust ([Welch et al. 2007](#)), this variable could be an important driver of homophobic attitudes that has not yet received attention from researchers.

Ultimately, our findings suggest that the most likely explanation for the prevalence of homophobia in football lies in pluralistic ignorance. Second-order beliefs about homophobic attitudes substantially exceed attitudes; because people expect others to be more homophobic than they actually are, they tend to systematically overestimate the likelihood of social sanctions and conflict when publicly voicing their opinions. In this regard, our findings match those of [White et al. \(2020\)](#), who suggest that gay players who came out expected homophobic reactions even though these expectations were largely unjustified.

Pluralistic ignorance is upheld as long as social norms shun communication about private views ([Bicchieri and Fukui 1999](#)). If there is no way to reliably assess others' motives, people will continue to infer homophobic tendencies from others' unwillingness to talk openly about homosexuality. If people's progressive ideals reported in surveys do not translate into everyday conversations, beliefs about homophobia will likely remain biased upward. Of course, expected homophobia is evidently not the only reason that keeps players closeted. Personal choice, exposure to international – and more conservative – elite football, as well as a lack of support from clubs, agents and governing bodies, likewise play a considerable role ([Magrath and Anderson 2022](#)).

One limitation of our survey arises from its focus on a UK sample, which may have provided us with a lower bound for estimates of anti-gay attitudes. Reliable evidence for other countries either indicates far lower acceptance – as in Spain ([Piedra et al., 2017](#)) – or is altogether in-existent – as in most European countries (see however, [Walser et al., 2022](#)). The natural progression towards research on single countries thus needs to shift towards cross-country comparisons of anti-gay attitudes in football. Doing so will not only showcase the importance of policy and culture but also shed light on countries at different stages of norm change, helping us to better understand and govern the path towards an inclusive and progressive sporting culture.

An issue worth mentioning is that we surveyed a sample recruited online, which restricts our ability to generalise to football fans at large. Even though online subject pools are diverse in terms of socioeconomic backgrounds ([Chandler et al., 2019](#); [Peer et al., 2017](#)), our point estimates of attitudes and beliefs should be interpreted carefully. We nevertheless believe that as debates increasingly move to social media, fan forums, and comment sections in newspapers ([Cleland 2015](#)), an online survey still captures an important sphere of football fans; therefore, it is plausible that similar misperceptions of attitudes also arise among large parts of the offline population.

Our study concentrated on surveying attitudes, not actual behaviour. While attitudes are key to shaping individuals' intentions, they do not necessarily translate into actions ([Ajzen 1991](#)). It is thus necessary to view our study in tandem with past and future research, exploring the nuances of actual behaviours and practices with regard to homophobia. Specifically for homosexually themed language, the intents and effects are often complex, and whether certain terms are considered homophobic slurs or 'pro-gay language' is context dependent ([Cleland et al., 2023](#); [Magrath 2018](#); [McCormack 2011](#); [Smits et al., 2021](#)). In this context, we want to emphasise that some of our statements included the outdated and derogatory term 'homosexual', which may have insinuated that homophobic responses are more acceptable and led us to overestimate the prevalence of anti-gay attitudes.

Despite criticism ([Magrath and Stott 2019](#)), the Football Association – the main governing body in English football – is comparatively active in combating homophobia, and British sportsmen show comparatively high levels of tolerance for sexual diversity ([Piedra et al., 2017](#)). Yet, by backing down under the threat of sanctions at the 2022 World Cup in Qatar, the Football Association has missed an opportunity to prominently stand up against homophobia. FIFA failed to support diversity and inclusion on an international scale by warning that team captains wearing symbolic rainbow armbands would be sanctioned. The fact that public displays of support are still avoided when much is at stake has amplified norm ambiguity in Western countries and failed to signal norm change beyond Western countries, potentially worsening athletes' concerns about participation in international competitions in more conservative countries ([Magrath and Anderson 2022](#)).

From this vantage point, we can derive clear policy implications for how governing bodies, organisations and clubs can support social change. Most importantly, transparent communication is key to overcoming situations of pluralistic ignorance ([Bicchieri and Mercier 2014](#)) considering that ambiguous social norms tend to reinforce a homophobic status quo. Informational campaigns about the true extent of homophobic attitudes among football supporters may not only encourage gay players but also correct misperceptions among supporters. Naturally, this requires fostering communication and deliberation about sexual diversity from early on, already in youth teams and academies. Past research has shown how norm misperceptions may be changed through interventions, nudges, and social information ([Allcott 2011](#)). Only when ordinary people realise that the likelihood of social stigmatisation for publicly supporting gay (co-)players is negligible can football outgrow its homophobic climate. This norm change can be reinforced through contact with gay players in one's proximity. As [Allport \(1954\)](#) suggests, direct and even parasocial contact may help to reduce prejudice, as evidenced when the rise of Mohammed Salah reduced anti-Muslim attitudes and behaviours in the Liverpool area ([Alrababa'h et al., 2021](#)). Together with support for role models and 'trendsetters' ([Bicchieri and Mercier 2014](#), p. 63) who speak out publicly, these are key measures that the governing bodies of football can take to inspire change, not just as reported in surveys but also on the field and in stadiums.

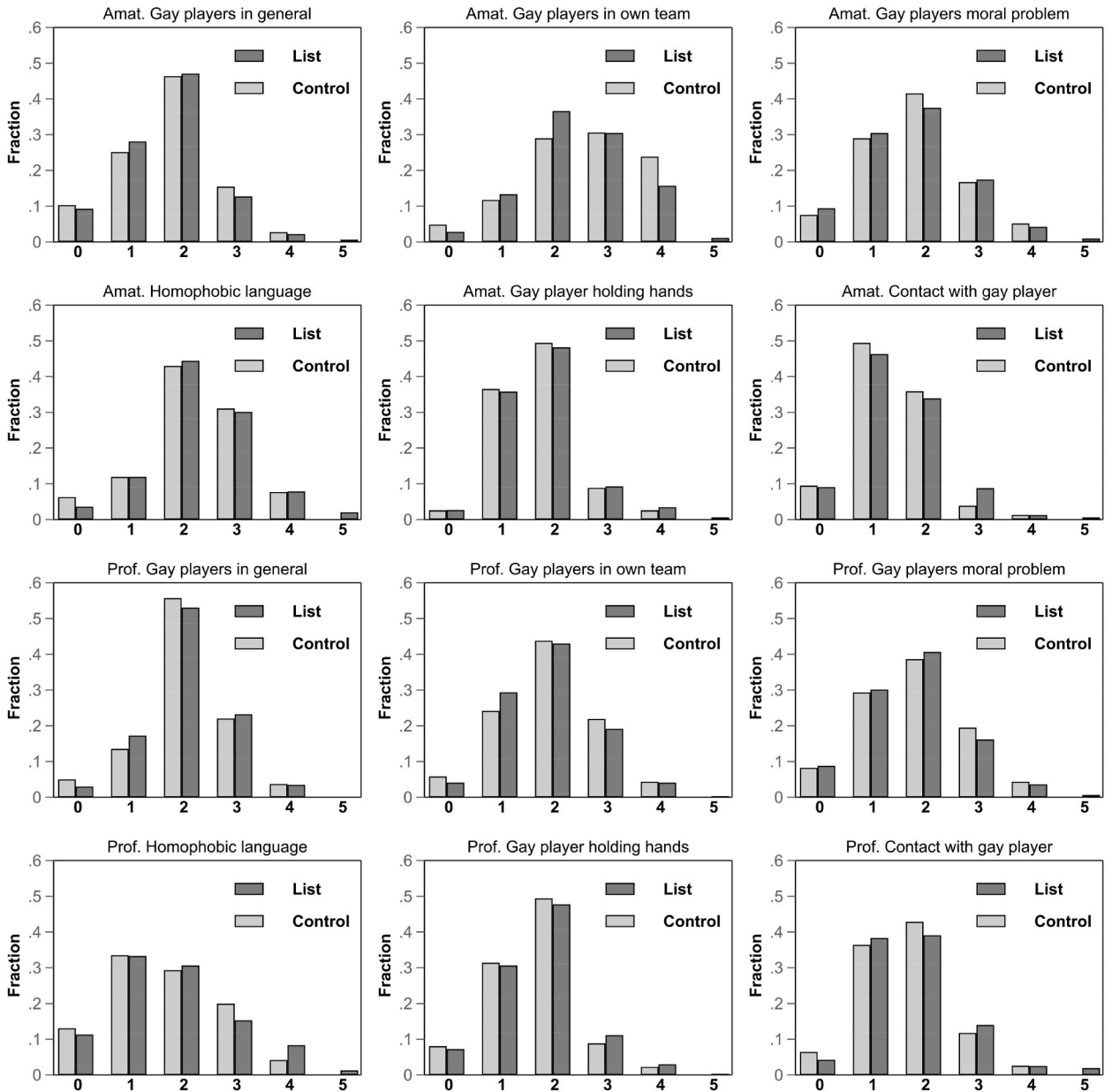
Declaration of competing interest

The authors declare that they have no conflicts of interest to disclose.

Acknowledgements

We would like to thank three anonymous reviewers for their valuable comments and helpful remarks. This research project gratefully acknowledges financial support from the Hochschuljubiläumsstiftung der Stadt Wien (H 384648/2021).

Appendix A



Appendix Fig. A1. Distribution of responses for each statement

Appendix Table A1

Estimates for anti-gay attitudes and second-order beliefs

	Direct Question	List Experiment	p: list > 0	p: list > DQ	Beliefs Total	Beliefs Open
Amateur Football						
Gay players in general	1.66 (0.52)	-3.64 (5.25)	0.756	0.841	20.02 (0.96)	14.02 (0.84)
Gay players in Own Team	4.15 (0.82)	-10.17 (6.10)	0.952	0.990	26.20 (1.08)	19.39 (1.01)
Gay players as moral problem	8.14 (1.11)	-4.12 (5.75)	0.763	0.990	27.50 (1.12)	20.88 (1.00)
Homophobic language	5.81 (0.95)	12.80 (5.52)	0.010	0.108	30.92 (1.25)	22.15 (1.14)
Gay players holding hands	9.63 (1.20)	4.24 (4.57)	0.177	0.979	32.79 (1.16)	23.32 (1.08)
Contact with gay player	11.96 (1.32)	10.74 (4.66)	0.011	0.597	35.30 (1.29)	26.83 (1.18)
Professional Football						
Gay players in general	1.66 (0.52)	1.52 (4.65)	0.372	0.515	23.00 (1.07)	17.46 (1.07)
Gay players in Own Team	4.65 (0.86)	-3.01 (5.26)	0.761	0.924	30.58 (1.14)	22.74 (1.10)
Gay players as moral problem	5.31 (0.92)	-7.06 (5.60)	0.896	0.984	27.06 (1.10)	20.76 (1.04)
Homophobic language	6.15 (0.98)	10.5 (6.35)	0.049	0.251	29.23 (1.19)	21.33 (1.10)
Gay players holding hands	9.63 (1.20)	6.97 (4.87)	0.076	0.702	33.91 (1.24)	26.74 (1.17)
Contact with gay player	9.47 (1.19)	11.01 (5.19)	0.017	0.388	29.52 (1.17)	23.36 (1.14)
Indices						
Index of specific statements	8.80 (0.78)	9.06 (2.87)	0.001	0.465	32.16 (0.65)	24.28 (0.59)
Index of general statements	4.45 (0.63)	-4.19 (3.39)	0.891	0.993	25.55 (0.59)	19.15 (0.54)

Notes: The first column reports the estimated prevalence from the direct question. The second column reports the estimated difference between the treatment and the control group in the list experiment. p(list > 0) reports the p-value of a one-sided t-test for mean(Treatment) > mean(Control). p (list > DQ) reports the p-value of a one-sided t-test for mean(list) > mean(DQ).

Appendix Table A2

Effects of socio-demographics on index of general statements

	(1) Direct Question	(2) List Experiment	(3) Social Desirability	(4) Beliefs Total	(5) Beliefs Open
Migration Background (Ref.: No)					
Yes	4.45*** (1.69)	4.66 (8.61)	0.22 (8.93)	3.82** (1.58)	4.10*** (1.42)
Age (in decades)	0.28 (0.50)	-2.63 (2.64)	-2.91 (2.75)	1.21** (0.48)	1.40*** (0.41)
Residential Area (Ref.: Big City)					
Town or Small City	-0.25 (1.19)	16.40** (7.27)	16.65** (7.43)	-1.69 (1.28)	0.54 (1.17)
Countryside	1.25 (2.19)	-13.10 (11.00)	-14.35 (11.50)	1.90 (1.99)	0.11 (1.65)
Observations	599	1210	1210	1162	1162
R-squared	0.02	0.01	0.02	0.01	0.02
Education (Ref.: Low)					
Mid	-2.21 (1.96)	5.91 (9.48)	8.12 (9.87)	-0.15 (1.62)	-2.85 (1.50)
High	-1.88 (1.92)	10.68 (9.08)	12.56 (9.59)	-0.60 (1.61)	-2.63 (1.50)
Occupation (Ref.: Full-Time)					
Other	6.06*** (1.86)	6.90 (7.80)	0.84 (8.14)	0.23 (1.45)	0.32 (1.29)
Observations	602	1215	1215	1167	1167
R-squared	0.04	0.01	0.01	0.00	0.04
Religiosity					
	1.42*** (0.39)	0.45 (1.50)	-0.97 (1.60)	0.77*** (0.26)	0.91*** (0.24)
Political View					
	3.13*** (0.90)	5.38 (4.80)	2.25 (4.97)	0.32 (0.88)	0.92 (0.75)
Generalised Trust					
	-0.39 (0.23)	-0.74 (1.70)	-0.35 (1.74)	-0.43 (0.29)	-0.25 (0.27)
Football Importance					
	-0.11 (0.30)	-1.41 (1.69)	-1.30 (1.77)	-0.45 (0.30)	0.19 (0.26)
Observations	596	1205	1205	1159	1159
R-squared	0.11	0.01	0.02	0.01	0.02

Notes: Estimates from OLS regression with robust standard errors in parentheses. Column 1 reports the main effects of the variables on the direct question. Column 2 and 3 report the coefficients for the interaction effect between treatment and socio-demographic variables (main effects are not reported). Not reported: Constant, Education: "Other". ***p < 0.01, **p < 0.05.

Appendix Table A3

Robustness tests using poisson regression models for the effects of socio-demographics on index of specific statements

(continued on next page)

Appendix Table A3 (continued)

	(1)	(2)	(3)	(4)	(5)
	Direct Report	List Experiment	Social Desirability	Beliefs Total	Beliefs Open
	(1)	(2)	(3)	(4)	(5)
	Direct Report	List Experiment	Social Desirability	Beliefs Total	Beliefs Open
Migration Background (Ref.: No)					
Yes	0.44** (0.19)	0.02 (0.04)	-0.01 (0.04)	0.10** (0.05)	0.13** (0.06)
Age (in decades)	0.19*** (0.06)	0.01 (0.01)	-0.00 (0.01)	0.05*** (0.02)	0.05*** (0.02)
Residential Area (Ref.: Big City)					
Town or Small City	0.10 (0.19)	0.05 (0.03)	0.04 (0.03)	-0.05 (0.05)	0.06 (0.05)
Countryside	0.32 (0.29)	0.04 (0.05)	0.02 (0.06)	0.09 (0.06)	0.09 (0.07)
Observations	599	1210	1210	1169	1169
Education (Ref.: Low)					
Mid	-0.43** (0.22)	0.04 (0.04)	0.06 (0.05)	-0.01 (0.05)	-0.06 (0.07)
High	-0.47** (0.22)	0.02 (0.04)	0.05 (0.04)	0.02 (0.05)	-0.13** (0.06)
Occupation (Ref.: Full-Time)					
Other	0.64*** (0.19)	0.01 (0.04)	-0.02 (0.04)	0.01 (0.05)	0.04 (0.06)
Observations	602	1215	1215	1174	1174
Religiosity	0.14*** (0.03)	0.01 (0.01)	-0.00 (0.01)	0.02*** (0.01)	0.03*** (0.01)
Political View	0.60*** (0.11)	0.05** (0.02)	0.02 (0.03)	-0.00 (0.03)	0.03 (0.03)
Generalised Trust	-0.16*** (0.03)	-0.02** (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.02 (0.01)
Football Importance	-0.01 (0.04)	0.00 (0.01)	0.00 (0.01)	-0.01 (0.01)	-0.01 (0.01)
Observations	596	1205	1205	1165	1165

Notes: Robust standard errors in parentheses. Column 1 reports the main effects of the variables on the direct question. Column 2 and 3 report the coefficients for the interaction effect between treatment and socio-demographic variables (main effects are not reported). Not reported: Constant, Education: "Other".

***p < 0.01, **p < 0.05.

Appendix Table A4

Robustness check excluding migrants

	Direct Question	List Experiment	Beliefs Total	Beliefs Open
Total Population				
Index of specific statements	8.80 (0.78)	9.06 (2.87)	32.16 (0.65)	24.28 (0.59)
Index of general statements	4.46 (0.63)	-4.18 (3.39)	25.55 (0.59)	19.15 (0.54)
Native Population				
Index of specific statements	8.02 (0.87)	7.81 (3.23)	31.34 (0.73)	23.75 (0.67)
Index of general statements	3.34 (0.61)	-6.08 (3.77)	24.72 (0.65)	18.30 (0.59)
Migrant Population				
Index of specific statements	11.08 (1.69)	12.76 (6.25)	34.66 (1.38)	25.81 (1.27)
Index of general statements	7.66 (1.67)	-3.04 (7.65)	28.24 (1.36)	21.86 (1.24)

Appendix Table A5

Regional variation for index of specific statements

	Direct Question	Beliefs Total	Beliefs Open
North East, England	7.41	32.45	24.86
North West, England	13.99	34.10	25.96
Yorkshire and the Humber	10.80	32.74	23.58
East Midlands	5.43	29.55	24.00
West Midlands	7.67	34.53	26.92
East of England	10.05	30.05	23.48
London, England	7.88	33.62	23.98
South East, England	7.82	30.59	24.12
South West, England	6.67	29.17	19.66
Wales	6.14	23.80	20.43
Scotland	5.93	32.96	24.11
Northern Ireland	12.50	36.44	32.01

Appendix B

Invitation to the Study

Attitudes in Professional and Amateur Football

Welcome to the Study! In this study, we are interested in your opinion about **professional and amateur football**. Over twelve pages, you will see several statements about football. Please read each statement carefully and think about your response. After the main part, you will have the chance to gain **bonus payment of up to £0.50** in a guessing game and you will be asked to fill out a questionnaire about personal information. Overall, completing this survey will take approximately **15 min** and you will receive a **flat payment of £2.00** plus any applicable bonus payment.

Your participation is voluntary. All of your responses will be anonymised, so that neither the research team nor other respondents will know which are yours. The data will be treated confidentially and will be stored and used only for scientific purposes. The European General Data Protection Regulation (GDPR) applies.

Consent If you give your consent to take part please click 'I agree' below. [I agree/I do not agree]
[Prolific ID and Prescreener Validation not displayed]

List experiment instructions

The following questions address your attitudes, experiences, and opinions as a fan of a professional football club and as someone who is playing or has played football in a competitive (amateur/secondary school/college/university) league. If you have actively played football outside of secondary school or university, please think about the experience that has been most important to you.

[Control: On each of the following pages, you find two types of questions. The first question shows you a **list of four statements**. For each list, please **indicate the total number of statements that you agree with**. For this first question we do not want to know which statements you agree with, we only want to know how many you agree with. The second question asks if you agree with one specific statement. For this question, please indicate 'yes' or 'no'. Please take your time when reading the statements and making your choice (the 'submit' button will only appear after a few seconds).]

[List: On each of the following pages, you find a **list of five statements**. For each list, please **indicate the total number of statements that you agree with**. We do not want to know which statements you agree with, we only want to know how many you agree with. Please take your time when reading the statements and making your choice (the 'submit' button will only appear after a few seconds).]

Please indicate how many of the following five statements about professional football apply to you. We do not want to know which one(s), just how many:

I think asthmatic people should not be professional football players.

I think people who are open to bribery should not be professional football players. I think homosexual people should not be professional football players.

I think people who dope should not be professional football players.

I think people not vaccinated against Covid-19 should not be professional football players.

I would not like it if a player of my favourite team supported an **extremist political ideology**.

I would not like it if a player of my favourite team **were homosexual**.

I would not like it if a player of my favourite team **signed a contract to play for the direct rival**.

I would not like it if a player of my favourite team **were filmed being drunk in public**.

I would not like it if a player of my favourite team **were sharing personal anecdotes on social media**.

I would find it morally concerning if **English football clubs joined the European Super League**.

I would find it morally concerning if **many players in professional football came out gay**. I would find it morally concerning if **many players in professional football did not speak the first language of their country of residence**.

I would find it morally concerning if **advertisements for cigarettes and alcoholic beverages were allowed in football stadiums**.

I would find it morally concerning if **many players in professional football were having multiple sexual partners**.

I think it is admissible to **call players of the opposing team "fag" or "gay" in football chanting** if it puts my favourite team at an advantage.

I think it is admissible to **use pyrotechnics and flares** if it puts my favourite team at an advantage.

I think it is admissible to **call players of the opposing team "arsehole" or "wanker" in football chanting** if it puts my favourite team at an advantage.

I think it is admissible to **insult the nationality of players of the opposing team in football chanting** if it puts my favourite team at an advantage.

I think it is admissible to **use musical instruments in football chanting** if it puts my favourite team at an advantage.

I would feel uncomfortable seeing a player of my favourite team **ostentatiously spending money in luxury restaurants**.

I would feel uncomfortable seeing a player of my favourite team **in a TV commercial for hair shampoo**.

I would feel uncomfortable seeing a player of my favourite team **involved in a doping scandal**.

I would feel uncomfortable seeing a player of my favourite team **take part in Covid-19 anti-lockdown protests**.

- I would feel uncomfortable seeing a player of my favourite team **holding hands with his same-sex partner in public.**
- I would not wear merchandise **sponsored by a betting company.**
- I would not wear merchandise **from a player who has signed a contract to play for the direct rival.**
- I would not wear merchandise **from a black football player.**
- I would not wear merchandise **from a gay football player.**
- I would not wear merchandise **from a player who has sexually abused a family member.**
- I think **medium talented people** should not play amateur football.
- I think **violent people** should not play amateur football.
- I think **people who dope** should not play amateur football.
- I think **people with a criminal record** should not play amateur football.
- I think **homosexual people** should not play amateur football.
- I would not like it if someone I play football with **were homosexual.**
- I would not like it if someone I play football with **were supporting an extremist political ideology.**
- I would not like it if someone I play football with **intimidated and harassed other team members.**
- I would not like it if someone I play football with **were not vaccinated against Covid-19.**
- I would not like it if someone I play football with **were cheating on his partner.**
- I think it would bring down morale in my own football team if **many players came out gay.**
- I think it would bring down morale in my own football team if **many players were having multiple sexual partners.**
- I think it would bring down morale in my own football team if **only some players were financially rewarded for playing.**
- I think it would bring down morale in my own football team if **many players were not vaccinated against COVID-19.**
- I think it would bring down morale in my own football team if **many players were not able to speak the first language of our country of residence.**
- I think it is admissible to **call someone I play against "arsehole" or "wanker"** if it puts me and my team at an advantage.
- I think it is admissible to **nutmeg someone I play against** if it puts me and my team at an advantage.
- I think it is admissible to **insult the family members of someone I play against** if it puts me and my team at an advantage.
- I think it is admissible to **tackle someone I play against** if it puts me and my team at an advantage.
- I think it is admissible to **call someone I play against "fag" or "gay"** if it puts me and my team at an advantage.
- I would feel uncomfortable seeing a player I play football with **celebrating after a goal.**
- I would feel uncomfortable seeing a player I play football with **praying on the field.**
- I would feel uncomfortable seeing a player I play football with **holding hands with his same-sex partner in public.**
- I would feel uncomfortable seeing a player I play football with **take part in Covid-19 anti-lockdown protests.**
- I would feel uncomfortable seeing a player I play football with **physically abusing a family member.**
- After a game, I would not stand next to a teammate in the shower **if he were gay.**
- After a game, I would not stand next to a teammate in the shower **if he played poorly.**
- After a game, I would not stand next to a teammate in the shower **if he were contagious with Covid-19.**
- After a game, I would not stand next to a teammate in the shower **if he had insulted me during the game.**
- After a game, I would not stand next to a teammate in the shower **if he were asthmatic.**

Beliefs Measure

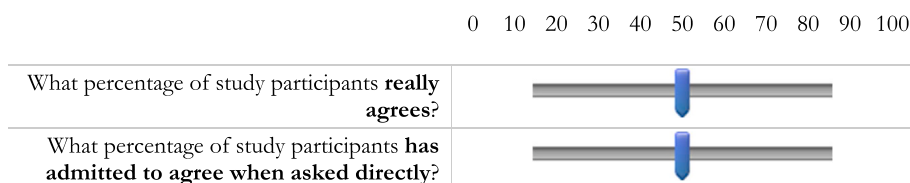
In this part of our survey, we will show you four statements. For each statement, we ask two question in which you can **guess the answers of other participants.**

First, what do you guess: “What percentage of study participants **really agrees** with this statement?” Second, what do you guess: “What percentage of study participants **has admitted to agree with this statement when asked directly?**”

If you think that some study participants really agree with a statement, but did not admit to agree when asked directly, your first guess should be higher than your second guess. If you think that all study participants who agree with a statement have admitted to agree when asked directly, the first and the second guess should be the same.

At the end of the study, we randomly select one of the four statements and check if your answers are correct. You receive a bonus payment of 0.25 Pounds if your first guess is in an interval of ± 3 percentage points of the average first guess by other study participants. You receive a bonus payment of 0.25 Pounds if your second guess is in an interval of ± 3 percentage points of the average response to [the direct question in this study/a direct question in another prolific study].

I think **homosexual people** should not be professional football players.



You receive a bonus payment of 0.25 Pounds if your first guess is in an interval of ± 3 percentage points of the average first guess by other study participants. You receive a bonus payment of 0.25 Pounds if your second guess is in an interval of ± 3 percentage points of the average response to [the direct question in this study/a direct question in another prolific study].

Questionnaire

On the next pages, you find a questionnaire about your personal information. Please take your time to carefully read the questions.

What is your age?

What is your gender? [Male/Female/None of the Above/Prefer not to say].

What UK region do you currently live in? [Select from 12 Nuts-1 regions].

Are you a citizen of the United Kingdom? [Yes/No].

Were you born in the United Kingdom? [Yes/No].

Were your parents born in the United Kingdom? [Yes, both/Only one of them/Both not].

Do you belong to an ethnic minority group in the United Kingdom? [Yes/No/Prefer not to say].

What is your highest degree or level of education you have completed? [Less than a high school diploma/High school degree or equivalent/College degree or equivalent/Vocational or commercial school/Graduate degree/Other].

What is your current main occupation? [Working full-time (35 h or more per week)/Working part-time (up to 34 h per week)/Student/Unemployed or Looking for Work/Parental Leave or Retired/Other].

Which phrase best describes the area where you live? [A big city/Suburbs or outskirts of big city/Town or small city/Country village/Farm or home in countryside].

What is your legal marital status? [Legally married/In a legally registered civil union/Legally separated or legally divorced/Widowed or civil partner died/None of these]

Do you consider yourself as belonging to any particular religion or denomination? If Yes, which one? [No/Yes, which one: (2) _____]

Regardless of whether you belong to a particular religion, how religious would you say you are? [0 (Not at all religious) to 10 (Very religious)]

How would you describe your political view? [Very Liberal/Slightly Liberal/Slightly Conservative/Very Conservative.

Generally speaking, would you say that most people can be trusted (10), or that you can't be too careful in dealing with people (0)? [0 (Can't be too careful with people) to 10 (Most people can be trusted)]

How often do you watch football games of your favourite team **in the stadium**? [I am in the stadium for every or almost every game/I try to watch most games/I try to watch a few games/I do not go to the stadium].

How often do you watch football games of your favourite team **either in the stadium or on TV**? [I watch every or almost every game/I try to watch most games/I try to watch a few games/I watch no games].

How important is football in your life? [0 (Not at all important) to 10 (Very important)]

Which of the following best describes your most important experience as an active football player? [Secondary School Football/University Football/Amateur Football outside of School and University].

When was the last time you actively played football in a competitive (non-recreational) league? [I am still active./Less than 2 years ago./Between 2 and 5 years ago./Between 5 and 10 years ago./More than 10 years ago.]

How much time do you/did you spend in your football club on a typical week during the season (for training, games, etc.)? [More than three days a week/One to three days a week/One day every second week/Less than one day every second week].

How much time did you/do you invest in organization and administrative duties at your amateur club? [A lot of time/A little/None at all].

[Payment Page not displayed]

Thank you for taking part in this study! Please click the button below to be redirected back to Prolific and register your submission.

References

- Adamczyk, Amy, 2017. Cross-national public opinion about homosexuality. In: *Examining Attitudes across the Globe*. University of California Press.
- Adamczyk, Amy, Boyd, Katharine A., Hayes, Brittany E., 2016. Place matters: contextualizing the roles of religion and race for understanding americans' attitudes about homosexuality. *Soc. Sci. Res.* 57, 1–16.
- Adamczyk, Amy, Pitt, Cassidy, 2009. Shaping attitudes about homosexuality: the role of religion and cultural context. *Soc. Sci. Res.* 38 (2), 338–351.
- Ajzen, Icek, 1991. The theory of planned behavior. *Organ. Behav. Hum. Decis. Process.* 50 (2), 179–211.
- Allcott, Hunt, 2011. Social norms and energy conservation. *J. Publ. Econ.* 95 (9), 1082–1095.
- Allport, Floyd H., 1924. *Social Psychology*. Houghton Mifflin, Boston.
- Allport, Gordon W., 1954. *The Nature of Prejudice*. Addison-Wesley, Reading, MA.
- Alrababa'h, Ala', Marble, William, Mousa, Salma, Siegel, Alexandra, 2021. Can exposure to celebrities reduce prejudice? the effect of mohamed salah on islamophobic behaviors and attitudes. *Am. Polit. Sci. Rev.* 115 (4), 1111–1128.

- Beyer, Heiko, Liebe, Ulf, 2015. Three experimental approaches to measure the social context dependence of prejudice communication and discriminatory behavior. *Soc. Sci. Res.* 49, 343–355.
- Bicchieri, Cristina, 2006. In: *The Grammar of Society. The Nature and Dynamics of Social Norms*. Cambridge University Press, Cambridge.
- Bicchieri, Cristina, Chavez, Alex, 2010. Behaving as expected: public information and fairness norms. *J. Behav. Decis. Making* 23 (2), 161–178.
- Bicchieri, Cristina, Fukui, Yoshitaka, 1999. The great illusion: ignorance, informational cascades, and the persistence of unpopular norms. *Bus. Ethics Q.* 9 (1), 127–155.
- Bicchieri, Cristina, Mercier, Hugo, 2014. Norms and beliefs: how change occurs. In: *The Complexity of Social Norms*. Springer International Publishing, Cham, pp. 37–54.
- Blair, Graeme, Alexander, Coppock, Moor, Margaret, 2020. When to worry about sensitivity bias: a social reference theory and evidence from 30 years of list experiments. *Am. Polit. Sci. Rev.* 114 (4), 1297–1315.
- Bowen, Anne M., Bourgeois, Martin J., 2001. Attitudes toward lesbian, gay, and bisexual college students: the contribution of pluralistic ignorance, dynamic social impact, and contact theories. *J. Am. Coll. Health* 50 (2), 91–96.
- Bush, Anthony, Anderson, Eric, Carr, Sam, 2012. The declining existence of men's homophobia in british sport. *J. Study Sports Athletes Educ.* 6 (1), 107–120.
- Cashmore, Ellis, Cleland, Jamie, 2012. Fans, homophobia and masculinities in association football: evidence of a more inclusive environment. *Br. J. Sociol.* 63 (2), 370–387.
- Chandler, Jesse, Rosenzweig, Cheskie, Moss, Aaron J., Robinson, Jonathan, Litman, Leib, 2019. Online panels in social science research: expanding sampling methods beyond mechanical turk. *Behav. Res. Methods* 51 (5), 2022–2038.
- Chapkovski, Philipp, Schaub, Max, 2022. Solid support or secret dissent? a list experiment on preference falsification during the Russian war against Ukraine. *Res. Politics* 9 (2), 205316802211083.
- Chuang, Erica, Dupas, Pascaline, Huillery, Elise, Seban, Juliette, 2021. Sex, lies, and measurement: consistency tests for indirect response survey methods. *J. Dev. Econ.* 148, 102582.
- Cleland, Jamie, 2015. Discussing homosexuality on association football fan message boards: a changing cultural context. *Int. Rev. Sociol. Sport* 50 (2), 125–140.
- Cleland, Jamie, Ellis, Cashmore, Dixon, Kevin, MacDonald, Connor, 2023. Analyzing the presence of homosexually-themed language among association football fans in the united kingdom. *Commun. Sport* 11 (3), 551–569.
- Clements, Ben, Field, Clive D., 2014. public opinion toward homosexuality and gay rights in great britain. *Publ. Opin. Q.* 78 (2), 523–547.
- Coffman, Katherine B., Coffman, Lucas C., Marzilli Ericson, Keith M., 2016. The size of the lgbt population and the magnitude of antigay sentiment are substantially underestimated. *Manag. Sci.* 63 (10), 3168–3186.
- Collins, Alan, Drinkwater, Stephen, Jennings, Colin, 2023. Selectively liberal? social change and attitudes towards homosexual relations in the UK. *Rationality and Society* 35 (4), 420–447.
- Coutts, Elisabeth, Jann, Ben, 2011. Sensitive questions in online surveys: experimental results for the randomized response technique (rrt) and the unmatched count technique (UCT). *Socio. Methods Res.* 40 (1), 169–193.
- Fisher, Robert J., 1993. Social desirability bias and the validity of indirect questioning. *J. Consum. Res.* 20 (2), 303.
- Gerhards, Jürgen, 2010. Non-discrimination towards homosexuality: the European Union's policy and citizens' attitudes towards homosexuality in 27 european countries. *Int. Sociol.* 25 (1), 5–28.
- Glas, Saskia, Spierings, Niels, 2021. Rejecting homosexuality but tolerating homosexuals: the complex relations between religiosity and opposition to homosexuality in 9 Arab countries. *Soc. Sci. Res.* 95, 102533.
- Glynn, Adam N., 2013. What can we learn with statistical truth serum?: design and analysis of the list experiment. *Publ. Opin. Q.* 77 (S1), 159–172.
- Hartmann-Tews, Ilse, Menzel, Tobias, Braumüller, Birgit, 2020. Homo- and transnegativity in sport in europe: experiences of lgbt+ individuals in various sport settings. *Int. Rev. Sociol. Sport* 56 (7), 997–1016.
- Herek, Gregory M., Glunt, Eric K., 1993. Interpersonal contact and heterosexuals' attitudes toward gay men: results from a national survey. *J. Sex. Res.* 30 (3), 239–244.
- Hooghe, Marc, Claes, Ellen, Harell, Allison, Quintelier, Ellen, Dejaeghere, Yves, 2010. Anti-gay sentiment among adolescents in Belgium and Canada: a comparative investigation into the role of gender and religion. *J. Homosex.* 57 (3), 384–400.
- Janus, Alexander L., 2010. The influence of social desirability pressures on expressed immigration attitudes. *Soc. Sci. Q.* 91 (4), 928–946.
- Krumpal, Ivar, 2013. Determinants of social desirability bias in sensitive surveys: a literature review. *Qual. Quantity* 47 (4), 2025–2047.
- Kuklinski, James H., Cobb, Michael D., Martin, Gilens, 1997. Racial attitudes and the 'New South. *J. Polit.* 59 (2), 323–349.
- Lax, Jeffrey R., Phillips, Justin H., Stollwerk, Alissa F., 2016. Are survey respondents lying about their support for same-sex marriage? lessons from a list experiment. *Publ. Opin. Q.* 80 (2), 510–533.
- Loftus, Jeni, 2001. America's liberalization in attitudes toward homosexuality, 1973 to 1998. *Am. Socio. Rev.* 66 (5), 762–782.
- Madan, Christopher R., Ludvig, Elliot A., Spetch, Marcia L., 2014. Remembering the best and worst of times: memories for extreme outcomes bias risky decisions. *Psychonomic Bull. Rev.* 21 (3), 629–636.
- Magrath, Rory, 2015. The intersection of race, religion and homophobia in British football. *Int. Rev. Sociol. Sport* 52 (4), 411–429.
- Magrath, Rory, 2018. 'To try and gain an advantage for my team': homophobic and homosexually themed chanting among english football fans. *Sociology* 52 (4), 709–726.
- Magrath, Rory, 2021. Gay male football fans' experiences: authenticity, belonging and conditional acceptance. *Sociology* 55 (5), 978–994.
- Magrath, Rory, Anderson, Eric, 2022. "Sport, masculinities, and heteronormativity." P. 889–C46. In: *The Oxford Handbook of Sport and Society*. Oxford University Press, p. P149.
- Magrath, Rory, Anderson, Eric, Roberts, Steven, 2015. On the door-step of equality: attitudes toward gay athletes among academy-level footballers. *Int. Rev. Sociol. Sport* 50 (7), 804–821.
- Magrath, Rory, Stott, Peter, 2019. 'Impossible to implement?': The effectiveness of anti-homophobia policy in English professional football. *Int. J. Sport Policy and Politics* 11 (1), 19–38.
- McCormack, Mark, 2011. Mapping the terrain of homosexually-themed language. *J. Homosex.* 58, 664–679.
- McCormack, Mark, Anderson, Eric, 2010. 'It's just not acceptable any more': The erosion of homophobia and the softening of masculinity at an English sixth form. *Sociology* 44 (5), 843–859.
- Merino, Stephen M., 2013. Contact with gays and lesbians and same-sex marriage support: the moderating role of social context. *Soc. Sci. Res.* 42 (4), 1156–1166.
- Mize, Trenton D., Manago, Bianca, 2022. The past, present, and future of experimental methods in the social sciences. *Soc. Sci. Res.* 108, 102799.
- Palan, Stefan, Schitter, Christian, 2018. Prolific.ac—a subject pool for online experiments. *J. Behav. Exp. Finance* 17, 22–27.
- Peer, Eyal, Brandimarte, Laura, Samat, Sonam, Acquisti, Alessandro, 2017. Beyond the turk: alternative platforms for crowdsourcing behavioral research. *J. Exp. Soc. Psychol.* 70, 153–163.
- Piedra, Joaquín, García-Pérez, Rafael, Channon, Alexander G., 2017. Between homophobia and inclusivity: tolerance towards sexual diversity in sport. *Sex. Cult.* 21 (4), 1018–1039.
- Rayburn, Nadine Recker, Mitchell, Earleywine, Gerald, C., Davison, 2003. An Investigation of base rates of anti-gay hate crimes using the unmatched-count technique. *J. Aggress. Maltreat. Trauma* 6 (2), 137–152.
- Roberts, Steven, Anderson, Eric, Magrath, Rory, 2017. Continuity, change and complexity in the performance of masculinity among elite young footballers in England. *Br. J. Sociol.* 68 (2), 336–357.

- la Roi, Chaim, Jornt J, Mandemakers, 2018. "Acceptance of homosexuality through education? investigating the role of education, family background and individual characteristics in the united kingdom." *Soc. Sci. Res.* 71, 109–357.
- Silva, Tony J., 2019. Straight identity and same-sex desire: conservatism, homophobia, and straight culture. *Soc. Forces* 97 (3), 1067–1094.
- Smits, Froukje, Knoppers, Annelies, Elling-Machartzki, Agnes, 2021. 'Everything is said with a smile': homonegative speech acts in sport. *Int. Rev. Sociol. Sport* 56 (3), 343–360.
- Sobotka, Tagart Cain, 2022. Not your average joe: pluralistic ignorance, status, and modern sexism. *Men Masculinities* 25 (3), 400–418.
- Walser, Julia, Fletcher, Thomas, Magrath, Rory, 2022. Fan attitudes towards sexual minorities in german men's football. *Leisure Stud.* 41 (3), 356–371.
- Welch, Michael R., David, Sikkink, Loveland, Matthew T., 2007. The radius of trust: religion, social embeddedness and trust in strangers. *Soc. Forces* 86 (1), 23–46.
- White, Adam J., Magrath, Rory, Morales, Luis Emilio, 2020. Gay male athletes' coming-out stories on outsports.com. *Int. Rev. Sociol. Sport* 56 (7), 1017–1034.