Does it Pay to Bet on Your Favourite to Win? Evidence on Experienced Utility from the 2018 FIFA World Cup Experiment

Lajos Kossuth, *Warwick Business School*

Nattavudh Powdthavee[1], *Warwick Business School*

Donna Harris, *University of Oxford*

Nick Chater, *Warwick Business School*

Forthcoming in *Journal of Economic Behavior and Organization*

Abstract

This paper examined whether people gained significant emotional benefits from not engaging in *emotional hedging* – betting against the occurrence of desired outcomes. Using the 2018 FIFA World Cup as the setting for our exploratory study, we found substantial reluctance among England supporters to bet against the success of the England football team in the tournament. This decision not to offset a potential loss through hedging did not pay off in people's happiness following an England win. However, it was associated with a sharp decrease in people's happiness following an England loss, which was a similar experience among subjects who were randomly assigned to bet for an England win. Post-match happiness was relatively more stable among those who chose to hedge or were randomly allocated to hedge. We conclude that people do not hedge enough partly because they tend to overestimate the expected diagnostic cost of betting against their social identity, while underestimate the negative emotional impact from betting on their favourite to win when they did not win.

1. Introduction

In remarkable research, Morewedge et al. (2016) and Tang et al. (2017) have shown that people are strongly averse to *emotional hedging*, i.e., betting against the occurrence of identity-relevant outcomes, despite doing so would minimise both financial and emotional losses for the individuals if the desired outcomes do not occur. For example, when given a choice to bet against the success of their preferred U.S. candidates and sports teams, most people would instead maximize potential gains and losses by betting for their favourite candidates or teams to win, i.e., putting "all their eggs in one basket", than opting to minimize gains and losses by betting against them.[2]

The above evidence of disloyalty aversion is important to the economics literature as it suggests a possible violation of the standard utility theories, which predict that people generally have a desire to minimise the risk of potential losses rather than to maximise potential gains (e.g., Bernoulli, 1954; Fischer et al., 1986). This counter-intuitive behaviour is also not unique to the betting market; evidence of disloyalty aversion reported in Morewedge et al. (2016) and Tang et al. (2017) is consistent with the puzzling evidence of equity home bias in finance, in which investors tend to overinvest in domestic assets (e.g., Cooper & Kaplanis, 1994; Kang, 1997; Coval et al., 1999) or in their own company stocks (e.g., Benartzi, 2001; Meulbroek, 2005) even when it is significantly less risky to diversify.

What explains why many people are reluctant to bet against identity-relevant outcomes? According to Morewedge et al. (2016), emotional hedging induces a motivational conflict between a short-term monetary gain and long-term benefits of staying loyal to one's identity,

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[2]Morewedge, Tang, and Larrick's (2016) research showing disloyalty aversion and home bias in sports betting has since been replicated in other studies looking at betting behaviours in other sports such as hockey (Staněk, 2016) and soccer (Na et al., 2018).

which has been shown to be a psychologically discomforting experience for the individual to go through (see, e.g., Elliot et al., 1994; Hogg et al., 2004). Given that people may interpret hedging as a signal that they are not as committed to their identity as they believed they are, the expected diagnostic (or psychic) cost of hedging associated with the negative self-signal regarding their identity may be large enough that it outweighs the expected gains in utility associated with the payout from the hedge. As a result, individuals may want to reduce this psychological discomfort and bet on their preferred outcome instead of hedging.

From an economic perspective, one could argue that the desire to minimise the expected diagnostic cost of hedging makes the strategy of not hedging a utility-maximizing strategy once we take the expected diagnostic cost into account. Nonetheless, surprisingly very little is known about the success of either strategy – hedging *versus* not hedging – at maximising experienced utility during as well as following the realisation of the outcome (Kahneman et al., 1997). Whether or not our decisions produce the kind of experiences that we expect seems like essential information for decision-makers to know, given that the decision of whether to engage in emotional hedging is made mostly on hedonic grounds.

In this study, we argue that people may not be making optimal decisions for their experienced utility by not engaging in more emotional hedging. Specifically, we argue that people's decision utility (or "wantability"), which reflects their reluctance to engage in emotional hedging, is unlikely to be matched by their experienced utility afterwards. Our argument is motivated by many writings in psychology that argue that human beings regularly make prediction errors about their future hedonic experiences from the choices that they make today (Gilbert & Wilson, 2000; Wilson & Gilbert, 2005). For example, in a study by Wilson et al. (1999), they showed how assistant professors tend to overpredict how happy they would be if they were to receive tenure, whereas former assistant professors who had achieved tenure were no happier than former assistant professors who had not. Additionally, they also showed

how voters whose preferred political candidates were victorious in the election were not as happy as they had predicted to be the week after the election, whereas voters whose preferred political candidates had lost the election were nowhere near as unhappy as they had predicted to be.

One cause of this prediction error is the focalism bias, which describes people's tendency to focus too much of their attention on the occurrence of the focal event and fail to consider the consequences of other events are likely to occur (Schkade & Kahneman, 1998; Wilson et al., 2000; see also Odermatt & Stutzer, 2018). For example, when people reflect on how much happier they would be if they were more affluent, they tend to focus too much of their attention on what money could buy them and little on what they would need to do in order to become richer, e.g., spending more time commuting and working. As a result, they may end up allocating too much of their time engaging in activities that are likely to increase stress and tension in the pursuit of higher incomes, thereby making them not nearly as happy being richer as they had expected to be (Kahneman et al., 2006).

We hypothesize that the same thought process applies in the case of emotional hedging. Here, the expected diagnostic cost associated with the negative self-signal of hedging is likely to be the focal point for many individuals when predicting the effect of betting on or against outcomes that are relevant to their identity on their future happiness. By focusing too much on how bad they expect to feel about betting against identity-relevant outcomes, people may be making little provision for what could happen to their future happiness if they choose not to hedge and then the undesirable outcomes occur. Similarly, they may also be making little provision for how happy they would feel if they decide to hedge, and then the desired outcomes occur. While theories on motivational conflict predict a considerable psychic cost for negative self-signalling against one's identity (Elliot et al., 1994; Hogg et al., 2004), because of loss aversion (or the human tendency to prefer avoiding loss to acquiring equivalent gains), the

effect of a combined loss, i.e., the occurrence of an undesired outcome and losing the bet, on their hedonic experiences may be just as great if not greater; see, e.g., Boyce et al. (2013). In addition to this, regret may also contribute to a greater feeling of disappointment following a decision not to hedge an unfavourable outcome (Bell, 1982). Conversely, it may even be possible that the experience of negative self-signal of hedging is entirely cancelled out by the joy of getting the desired outcomes, i.e., "*who cares about how we made a bet when we got what we wanted?*" If the evidence suggests that people do indeed overestimate the negative diagnostic cost on their future hedonic experience, then it may help to explain why people are reluctant to hedge desired outcomes even when it may be more optimal for their future happiness to do so.

Our paper attempts to contribute to the emotional hedging literature by investigating whether people make optimal decisions for their experienced utility when deciding to either bet on or against identity-relevant outcomes. Specifically, we conducted a small-scale online study of the betting behaviours and the hedonic experiences of England supporters during one of the most-watched sporting events in the world: the 2018 FIFA World Cup. We carried out four main hypothesis testing in the current study. First, we examined whether England supporters would be reluctant to bet against England beating their opponent during their time in the World Cup. Second, we investigated whether changes in people's happiness vary significantly across betting decisions – regardless of whether they were endogenously or exogenously determined – following either a desired (England win) or an undesired (England loss) outcome. Third, we tested the accuracy of England supporters' predictions of their future happiness in the case of desired and undesired outcomes, and, fourth, whether we could use the extent of people's prediction errors to predict their betting choices.

2. Methodology

2.1. Sampling selection and experimental design

To investigate whether people generally engage in emotional hedging during the 2018 FIFA World Cup, we conducted a series of lab-in-the-field experiments on voluntary participants at the University of Warwick between mid-June and early July in 2018. There were three stages to our experimental design. In the first stage, which was conducted two weeks before the World Cup started, we recruited volunteered participants by sending emails to students registered in the SONA system (Sample 1; $N = 338$) and asked them to fill in an online questionnaire generated by Qualtrics that was designed to elicit their general attitudes towards the World Cup[3]. Using a lottery prize draw as an incentive, we asked our participants to self-report on the extent to which they were looking forward to the World Cup, the team that they usually supported, the team that they thought would win the World Cup, their nationality, and their gender.[4] The logic behind this procedure was to screen out subjects who had little or no interest in, or knowledge about, the upcoming World Cup. This produces a subsample of 94 subjects (Sample 2), who 1) were looking forward to the World Cup, and 2) had explicitly declared England either as their first, second or third favourite team in the event.[5]

In the second stage of the experiment, subjects in Sample 2 were randomly assigned to one of the three treatment groups: the "**Free choice**", the forced-choice "**Bet for England**", and the forced-choice "**Bet for England's opponent**". There were two primary reasons for our

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[3] See Appendix A for the screening questionnaire.
[4] We also asked participants questions on the strength of their support for their teams on a scale of 1 "Rarely ever follow" to 7 "Die-hard fan"). However, there are a lot of inconsistencies with respect to how participants respond to these questions. For example, we would expect the within-person rating of support for the 1st favorite team to be greater than the rating of support for the 2nd favorite team, and the rating of support for the 2nd favorite team to be greater than the rating of support for the 3rd favorite team. However, we would often find that the rating of support for the 2nd favorite team is greater than the rating of support for the 1st favorite team. This might be due to a variety of reasons, including the way we framed the question. It might be that although participants know the ordinal ranking of team preferences, they may not have the same opportunity to follow the matches of their top favorite team compared to the matches of their less preferred teams. Moreover, almost a quarter of England supporters in our sample did not respond to this question. As a result, we have decided not to focus on this variable as a measure of strength of team identity.
[5] 72% of Sample 2 stated England as their top team.

decision to randomize subjects into either one of the forced-choice options, as well as the free choice group. Firstly, subjects' betting decisions and their experienced happiness in the free choice group are potentially endogenous to different unobserved individual characteristics, i.e., latent individual fandom, for example. And secondly, we had anticipated that the number of people voluntarily choosing to hedge in the free choice group will not be large enough to make meaningful statistical inferences. Hence, the decision to randomize subjects into betting for England's opponent to win allowed us to estimate the effect of hedging on post-match experience for those who, without the randomization, would not have hedge had they been given a free betting choice.

In order to minimize learning and streak-related behaviours such as gambler and hot-hand fallacies that might arise from facing the same choice several times in a row, we repeated the random assignment of subjects into different treatments each time before the start of each England match in the World Cup. Hence, depending on the luck of the draw, each subject could have been in one treatment for one of the England matches, and another in another one of the England matches. There were six England matches in total[6]: England *vs* Tunisia (1st Group stage); England *vs* Belgium (3rd Group stage); England *vs* Colombia (2nd round); England *vs* Sweden (Quarterfinals); England *vs* Croatia (Semi-finals); and England *vs* Belgium (3rd/4th playoff).

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[6] For the first time in 28 years, England football team reached the semi-final stage in the FIFA World Cup. Not only that their incredible performance had surpassed all our expectations, it also enabled us to repeat our randomised survey experiment six times, with three wins and three losses in total. It should also be noted here that the other group stage match was England vs. Panama, where England were overwhelmingly clear favourites to win. We decided not to run our experiment using this game as it would have been very unlikely to see any type of insurance in this match. In the end, they ended up winning 6-1.

All subjects were sent an online, pre-match questionnaire 24 hours before the start of each England match.[7] They were first asked the following question about their current happiness (reference?):

"In general, how happy would you say you are these days? 1. Extremely unhappy, …, 7. Extremely happy."

Following the general happiness question, subjects in the "**Free choice**" treatment were then given a £3 endowment, which they were asked to decide whether to:

i)   keep the £3 endowment;

ii)   bet for England to win;

iii)   bet for England's opponent to win; or

iv)   bet for a draw.

In the betting decisions (options ii-iv), the whole amount (£3) was used. However, given that these betting choices are endogenous to unobservable individual effects – for example, people who are not as emotionally attached to their preferred teams are more likely than others to hedge, we also have two treatments that randomly assigned choices to subjects. In these treatments, subjects were told that they are being given £3 as an endowment. And as a result of a fair coin flip (Head = England, Tail = England's opponent), we have followed the coin's random outcome and put their entire £3 for England to win in the next match in the "**Bet for England**" treatment or for England's next opponent to win in the next match in the "**Bet for England's opponent**" treatment. Hence, we can treat these two treatments as exogenous, especially the "**Bet for England's opponent**" treatment as more subjects are likely to bet for England if they were given the choice.

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[7] For the pre-match and post-match questionnaires, see Appendix B.

Subjects were told before making their bet that the potential payments were taken from the odds generated by Bet365.com, which is one of the leading bet providers in the UK, for each match as of the day the questionnaire was sent. In other words, we incentivized our participants to place a bet with real-life odds as payoffs in mind. For example, in the England *vs* Tunisia match, participants had the opportunity to win £27 from a £3 bet if they bet for Tunisia to beat England (and Tunisia beat England).

We also elicited each subject's predicted happiness 24 hours following i) an England win, ii) an England loss; and iii) a draw. We also collected each participants' attitudes towards risk, as well as the reasons for placing the bet they placed (for the "**Free choice**" treatment only). Subjects were also given £2 for the completion of this pre-match questionnaire.

In the final stage, all subjects were sent the same post-match questionnaire to be completed within 24 hours following the conclusion of the match in that round. Included in the survey were questions about their current happiness in general, current happiness specific to the outcome of the match, whether they watched the match, as well as feelings regret, their gender, and their nationality. They were also paid £2 participation fee. It is important to note here that subjects were only paid participation fees if they had completed both pre- and post-match questionnaire: this way, they either received £4 for participating plus the return from hedging.

Ninety-four individuals took part in the second and third stage of the experiment across the six England matches. There were 349 observations in total: 192 observations in the "**Free choice**" treatment, 74 in the forced-choice "**Bet for England**" treatment, and 83 in the forced-choice "**Bet for England's opponent**" treatment.[8] The average payoff for subjects in the "**Free**

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[8] Note that we collected more observations for the "**Free choice**" treatment than for either of the forced choice treatments because there are four possible betting choices that the subjects could make in the "**Free choice**" treatment, and we need to be able to have sufficient number of observations for each of these four choices in order to conduct any meaningful empirical analysis.

choice" treatment was £6.64; £6.14 in the "**Bet for England**" treatment; and £6.65 in the "**Bet for England's opponent**" treatment.[9]

2.2. Econometrics specifications

There are three main empirical specifications. The first specification, which focuses on the "**Free choice**" treatment as illustrated in Eq.1, estimates the following multinomial logit equation of betting decision with robust standard errors clustering at the individual level in order to determine what predicts betting choices:

$$BD_{it} = \alpha + \beta_1 O_{it} + \beta_2 E_{it} + \beta_3 Y_{it} + \beta_4 X_{it} + \varepsilon_{it}, \quad i = 1, \dots, N; t = 1, \dots, 6, \tag{1}$$

where BD_{it} denotes the betting decision for subject i in period t; O_{it} represents the winning odds provided by Bet365.com for both England and England's opponent (the baseline odds are the odds that the two teams will get a draw within the 90 minutes of playing time); E_{it} is a dummy variable representing whether England won their previous match; Y_{it} is the accumulated payment for each subject i up to period t; X_{it} is a vector of other control variables that includes dummy variables representing the stage of the match (group stage vs. knock-out stage), having stated England to be the first favourite team during the screening process, gender, nationality, as well as pre-match happiness, subjective risk profile, accumulated payment, and their reasons behind their betting decision; and ε_{it} is the error term. Given that tiny number of people in the "**Free choice**" treatment chose the draw option, we have decided to exclude the "Draw" category from the multinomial logit estimation and only focus on the three possible outcomes: keep £3, bet for England, and bet for England's opponent.

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[9] See Appendix C for some basic descriptive statistics of pre-match statistics across different treatments.

The second specification estimates the effects of different betting decisions on changes in pre- and post-match general happiness, which we estimate separately for sub-samples of England win and England loss. Our main objectives here are to investigate whether (i) the decision to bet for England to win has a significant psychic benefit following an England win, but a severely adverse psychic effect following an England loss, and (ii) the decision to bet for England's opponent to win has a negative psychic effect following an England win, but buffers any future emotional losses following an England loss. Equation 2, which can be written as follows:

$$\Delta H_{it} = \theta + \gamma_1 BD'_{it} + \gamma_2 P'_{it} + \gamma_3 Z'_{it} + \mu_i + \epsilon_{it}, \quad i = 1, \dots, N; t = 1, \dots, 6, \quad (2)$$

where ΔH_{it} denotes the difference between post- and pre-match general happiness for subject i in period t; BD'_{it} is a set of dummies of different betting decisions; BD'_{it} represents a vector of accumulated payment, individual payment, and maximum potential payment from betting; μ_i is the unobserved individual fixed effects; and Z'_{it} is a vector of control variables that includes all of the control variables in Eq.1 (except for subject's reasons behind their betting decision), plus a dummy for whether the subject watched the match in question. Because subjects' happiness is likely to be influenced not only by the outcome of the match but also by their income gains or losses from winning or losing the bet, we first estimate Eq.2 without the payment variables (e.g., accumulated payment, payment received after the match, and maximum potential payment from betting) as controls. This enables us to gauge the extent to which the effects of different betting strategies on changes in subjects' happiness are confounded by how much money they won or lost. We then re-estimate Eq.2 with the payment variables as controls in order to see the effects of different betting strategies on changes in subjects' happiness that are independent of how much they earned from the match.

The third and final specification, Eq.3, replaces Eq.2's post-match general happiness with post-match happiness that is specific to the match, i.e., "*How happy do you feel about the outcome of the match between England and their opponent?*"

$$\Delta \widehat{H}_{it} = \rho + \delta_1 BD'_{it} + \delta_2 P'_{it} + \delta_3 Z'_{it} + \tau_i + v_{it}, \quad i = 1, \dots, N; t = 1, \dots, 6, \qquad (3)$$

where $\Delta \widehat{H}_{it}$ denotes the difference between specific post- and pre-match happiness for subject i in period t. Following a suggestion by Ferrer-i-Carbonell and Frijters (2004) to always allow for unobserved heterogeneity in happiness regressions whenever possible, all happiness regressions in this study are estimated using both random-effects and fixed-effects estimators with robust standard errors clustering at the individual level. It is worth noting here that the correlation between post-match general happiness and post-match happiness specific to the match is 0.31, which suggests that there is only a moderate correlation between these two subjective variables.

3. Results

3.1. Do people engage in emotional hedging?

To make the first pass at this question, we present in Figure 1 the raw data of betting decisions in the "**Free choice**" treatment. Consistent with what would have been predicted by the social identity theory and previous findings in the literature (e.g., Staněk, 2017; Morewedge et al., 2018), we find that more than half of the participants bet for England to win (52.6%) and only a minority (17.2%) of the England supporters in our sample chose to bet for the opponent to win). Qualitatively similar results are obtained in Figures 2A-2B when we divide the sample into the group and the knockout stages of the World Cup: in both stages, the highest proportion of subjects continued to bet for England to win (40% and 59% in the group and the knockout

stages respectively). There is, however, a small but important difference between these two stages of the tournament. As both figures show, the proportion of subjects who bet for England is notably higher during the knockout stage.

By contrast, the proportion of people who insured themselves against the possibility of England losing (betting for the opposing team to win) is almost the same in the knockout stage as it was in the group stage. One explanation for this is that the participants' social identity might have been further reinforced by an increase in the stakes experienced during the knockout stages.

To understand better what predicts these betting decisions (except for the small number of people betting for a draw), we estimate Eq.1's multinomial model and report the results in Table 1. Looking across the first panel of results (Model 1), we find little statistical support that the higher the odds of England winning, i.e., the lower the probability that England would win the match, the less likely it is for subjects to bet for England to win compared to the decision of keeping the money (the reference group). The same nonsignificant finding is obtained for the odds of England's opponent winning and pre-matched happiness. There is also little statistical evidence to suggest that subjects would bet for an England to win their next match if England had already won in the previous match. By contrast, there is strong evidence that subjects are significantly more likely to bet for England to win than keeping the money during the knockout stage. Additionally, people who are relatively more risk-loving are also more likely to bet for either England or England's opponent to win than keeping the money, whereas subjects who listed England as their top favourite team were highly unlikely to bet against England winning their next match. On the other hand, the observable characteristics such as gender and nationality, appear to have very little predictive power of subject's betting decision.

Following Morewedge et al.'s (2018) empirical strategy, the second panel of Table 1 (Model 2) adds as additional controls each subject's reasons behind their betting decision. The variables were derived by asking subjects to state their level of agreement on a 7-point scale (1 = "strongly disagree", …, 7 = "strongly agree") to the following six possible reasons behind their decision to bet the way they did: i) highest chance of winning; ii) paid the most money, iii) want to hedge my chance; iv) have something to be happy about; v) want to be loyal, and vi) will not enjoy money if the other team win.[10]

We find that one of the main reasons behind the subjects' decision to bet against their team was because doing so paid the most money. Consistent with the social identity theory and betrayal aversion (Bohnet et al., 2008), the decision to bet for England to win tends to be correlated with the drive of not wanting to hedge, as well as the thought of not enjoying the money if the other team wins. Moreover, we find that the reason to have something to be happy about is positively and statistically significantly correlated with the decision to hedge, thus suggesting that people may have made a systematic calculation before placing a bet that betting against England will help alleviate their future emotional damages should England go on to lose their match. Interestingly, we find that the reason for wanting to hedge are negatively and statistically significantly correlated with both betting for and against England winning. This suggests that subjects may have seen keeping the money as a form of 'soft' hedging as it is the only choice that allows them to keep the relatively small sum of money (£3), while at the same time not having to bet for or against their team identity.

3.2. Can hedging insure against future emotional loss?

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[10] For descriptive statistics of the reasons behind betting variables, see Appendix D.

We have seen that people typically do not engage in emotional hedging by betting on their non-preferred team. However, if they do, or if hedging is imposed upon then, does it make them unhappy if their team wins, but then reduce the feeling of disappointment if their team loses? In this section, we test whether hedging worked in insuring individuals against future disappointment following an England loss in both the free and forced-choice treatments. We first present in Figures 3A-3B raw data evidence of the mean pre-match general happiness, post-match general happiness, and post-match happiness specific to the outcome of the match by betting decisions for the matches that England won and lost.

In the three matches that England won illustrated in Figure 3A, we can see from the overlapping standard errors that the average post-match general happiness levels are statistically insignificantly different from the average pre-match general happiness. On the other hand, with the exception for betting for a draw, the average post-match happiness specific to the outcome of the match is generally higher than (or the same as) the pre-match general happiness, including those who chose to engage in emotional hedging by betting for England's opponent to win. These preliminary results thus suggest that the decision to hedge identity-relevant outcomes did not seem to reduce our subjects' future happiness, both general and specific to the match, even if England went on to win their match and they ended up losing the bet.

What happened when England lost? In the three matches that England lost to their opponent illustrated in Figure 3B, we can see that subjects did not report a drop in their general happiness after the match if they chose to either keep the money, bet for a draw, or bet for England's opponent to win. This suggests that the decision to bet for the opposite team or keep the money and refrain from betting altogether may have helped reduce future disappointment when England lost their match. Similarly, we also observe a significantly smaller drop in the average post-match happiness specific to the outcome of the match among those who chose or

were randomly assigned, to betting for England's opponent to win. Not surprisingly, some of the most significant drops in the post-match happiness following an England loss were experienced by those who either chose or were randomly assigned to bet for England to win.

Table 2 conducts more systematic testing of the emotional hedging hypothesis by estimating Eq.2 on subsamples by matches won and lost. The dependent variable is each subject's post-match general happiness *minus* pre-match general happiness so that positive value in the dependent variable denotes a within-person increase in the general happiness following an England match, and vice versa for a negative value. We report both random-effects (RE) and fixed-effects (FE) estimates for the "**England won the match**" subsample in Columns 1-4, and for the "**England lost the match**" subsample in Columns 5-6.

Looking across Columns 1-4, there seem to be little differences in terms of changes in the general happiness pre- and post-match across free and forced bets when England won the match; none of the estimated RE and FE coefficients on free and forced bets is statistically significantly different from zero. This nonsignificant finding does not seem to depend on whether the payment variables were included or excluded from the model: subjects who bet for England to win did not become significantly happier than others following an England win, despite having also earned money from the match. By contrast, hedging – either as a choice or randomly assigned – does not correlate with a statistically significant drop in the general happiness following an England win when compared to keeping the money or betting for England to win.

For the "**England lost their match**" subsample, i.e., Columns 5-8 in Table 2, we find that betting for England to win is associated with a sizeable and statistically significant drop in the general happiness score of around 0.5-points in the RE model and 0.9-point in the FE model when compared to keeping the money. It is also noteworthy that a similar drop of around 0.7-

point in general happiness is also observed in the FE specification for those who were forced to bet for England to win as well; see Column 8. It is also worth noting here that we cannot reject the null hypothesis that the two coefficients are the same in magnitudes. By contrast, there is zero statistical difference in pre- and post-match general happiness between keeping the money and betting for England's opponent to win – e.g., the estimated coefficient on having been forced to bet for England's opponent is -0.1 with robust a standard error of 0.37, which suggests that hedging helps to insure our subjects against the feeling of disappointment when England lost their match. Again, it is worth noting that we can reject the null hypothesis that the estimated coefficients on hedging are statistically significant different from the coefficient on betting for England to win at the 5% level.

There are a few other interesting results in Table 2. For example, an England loss in the knockout stages[11] hurts significantly more than a loss in the group stages, while the opposite is true for an England win in the knockout stages. This finding is not surprising, given that the stakes are much higher in the knockout stages than in the group stages. On average, an increase in the maximum potential payment that subjects could have won is associated with a statistically significant drop in happiness following an England loss. However, a further interaction test (results are not shown here) between this variable and subjects' betting decision reveals that this negative psychic effect is mostly experienced by those who bet for England to win. In other words, this result might be signalling the feeling of regret, i.e., "*I bet for England to win, but had I not, I could have won a lot of money by betting for the other team to win*." Finally, there is some evidence to suggest that women derived greater happiness than do men following an England win but are not significantly unhappier by an England loss compared to men.

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[11] England lost twice in the knockout stages, one at the semi-finals (losing to Croatia) and the other at the 3rd/4th place playoff (losing to Belgium).

Table 3 checks whether Table 2's results can be replicated with the post-match happiness specific to the match as the dependent variable instead of a general one. Here, we show that subjects who either chose to bet for England to win or had been randomly assigned to bet for England to win became statistically significantly less happy about the outcome of the match following an England loss in the FE regressions, but surprisingly not in the RE regressions; see Columns 7 and 8. By contrast, there is little evidence to suggest that subjects who bet for England to win, either by choice or randomly assigned, were statistically significantly happier with the outcome of the match following an England win. We are not certain why the results are statistically more robust in the FE than the RE regressions, but selection bias and attenuation bias that are associated with the unobserved fixed characteristics such as personality traits might be playing a role here. For example, it might be that people who were born with personality traits that make them happy are more reluctant to hedge. They may also be less likely to drop out from the experiment. Nevertheless, both RE and FE findings are consistent with Table 2's results, and we can conclude based on Tables 2 and 3's results that the decision to hedge – or merely having been randomly made to hedge – works as emotional insurance against the disappointment of a future loss.

We also conduct further robustness checks in Appendix E and F. Given that randomisation of treatments occurred at the beginning of each round, it is likely that subjects would have been allocated different treatments throughout their time spent in the experiment. To account for their experience in other treatments, we included previous round's treatment as an additional control variable in Appendix E. However, including this additional control did little to change the main results and the decision not to hedge continues to hurt psychologically following and England loss. Finally, we tested whether the decision not to hedge is associated positively with subject's level of enjoyment while watching the game and report the estimates in Appendix F. Here, we find little evidence that people who bet on their favourite to win

enjoyed watching the game more than those who engaged in psychological hedging. Hence, this suggests that there may have been little procedural utility to be gained from people's reluctance to hedge while watching their favourite team in a match.

3.3. Affective forecasting and decision errors in hedging

Results in Tables 2 and 3 suggest that betting for England may be a sub-optimal betting strategy at least in terms of psychological well-being as it made subjects significantly more miserable compared to other betting decisions following an England loss, while at the same time it did not make them significantly happier following an England win. Despite the emotional benefits of hedging, more than half of our observations in the "**Free choice"** treatment did not, however, choose to bet against their team identity.

What explains this mismatch in the pre-match choice and the post-match experience of our subjects? One hypothesis is that people's decisions are not driven by their desire to maximize hedonic states across time. Instead, people make decisions for a variety of reasons, including the desire to preserve one's identity (Morewedge et al., 2018), that may or may not have a pay off in terms of emotional experiences in the future. An alternative hypothesis is that people are indeed motivated by their emotional consequences from the decisions that they make today, which would be consistent with the recent studies that find people's choices to be primarily driven by how happy they think they will be in the future from making these decisions (see, e.g., Benjamin et al., 2012; Adler et al., 2017). However, decision errors occur because people are not very good at predicting which decisions will make them happiest in the future, which would partly explain why people do not engage enough in emotional hedging.

Considering our findings, we propose two additional testable hypotheses to help explain why most people are averse to betting against their team identity. These are:

1) Team identity exacerbates people's inability to accurately forecast their future emotional experiences from betting for and against their team, and

2) Mispredictions of post-match happiness are among the main drivers of people's betting decisions.

We shed some light on these additional two hypotheses below.

3.3.1. Evidence of affective forecasting errors

According to studies in the affective forecasting literature, people are prone to making inaccurate predictions of future hedonic experiences of their decisions (Gilbert & Wilson, 2000; Wilson & Gilbert, 2005). This inability to accurately forecast our future happiness can be explained in part by focusing illusion – i.e., the tendency to focus too much attention on specific aspects of an event while ignoring other factors (Schkade & Kahneman, 1998), impact bias – i.e., the tendency to overestimate the length or the intensity of future emotional states (Gilbert et al., 1998), and projection bias – i.e., the tendency to exaggerate the degree to which their future preferences resemble their current preferences (Loewenstein et al., 2003). What this implies is that, because of these cognitive biases, an individual's decision utility (or revealed preferences) may not always lead to the same experienced utility (or hedonic experiences) once the choices have already been made (see, e.g., Kahneman & Thaler, 2006).

Building on previous findings in the affective forecasting literature, we hypothesize that having a strong sense of team identity exacerbates our inability to accurately forecast the future emotional consequences of our choices, both positively and negatively. More specifically, because of impact and projection bias, England supporters will tend to overestimate the positive impact of an England win, as well as the negative impact of an England loss, on their future happiness.

Figures 4A-4B test these hypotheses by presenting the differences between subjects'

pre-match general happiness, predicted general happiness during the 24 hours after the match,

and post-match general happiness during the 24 hours after the match for England win and loss,

respectively. Focusing on the "**Free bet**" sample first, we can see that the decision to bet for

England to win is observed with one of the most substantial anticipated increases in their future

happiness – from 5.16 in the pre-match happiness to 6.07 in the post-match happiness – if

England won compared to other choices. However, the decision to bet for England to win is

also observed with one of the most significant anticipated drops in their future happiness –

from 4.95 to 3.07 – if England lost. Interestingly, we also find that subjects in the "**Forced Bet**

for England" treatment also anticipated becoming significantly happier from an England win

– from 5.35 to 6.22 – and significantly unhappier from an England loss – from 5.11 to 2.95.

On the other hand, subjects in the "**Forced Bet for England's opponent**" even when they did

not make the betting decision themselves. For these subjects who were forced to hedge, they

anticipated becoming slightly unhappier from an England win – from 5.26 to 4.95 – as well as

from an England loss – from 5.66 to 4.89.

Were these predictions accurate? Looking at both figures, we can see that an England

loss did not seem to hurt people as much as they thought it would.[12] Also, an England win did

not give them nearly as much joy as they had anticipated. What is perhaps most interesting,

however, is that the extent of misprediction of future happiness is noticeably smaller among

those who hedged when England went on to lose. This can be seen quite clearly in Figure 4B:

among those who bet for England's opponent to win, their average pre-match general happiness

is 5.06, their average predicted happiness 24 hours following an England loss in their next

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[12] It is good to recall here that we asked our subjects to make a prediction of their future happiness within 24 hours following the conclusion of the match in question.

match is 5.00, and their average post-match (or realized) happiness 24 hours following the conclusion of the match is 5.33.

In short, Figures 4A-4B provide raw data evidence that subjects who bet for England to win tend to make notably more significant affective forecasting errors than those who hedged, bet for a draw, or decided to keep the money. Hence, our results seem to suggest that subjects who strongly identify with their team are among the worst at predicting their future emotional experiences post-match.

3.3.2. Measures of affective forecasting as predictors of betting decisions

To what extent can our subjects' predictions of future happiness predict their betting decisions? One hypothesis, which is based on a model of behaviour in which people take into considerations their future emotional experiences before making a choice (Benjamin et al., 2012; Adler et al., 2017), is that people will be more likely to bet for England to win if they anticipate that happiness gain from an England win exceeds that of happiness loss from an England loss. On the other hand, people will be more likely to hedge and bet for England's opponent to win if they anticipate that happiness gain from an England win is smaller than that of happiness loss from an England loss.

We conduct a formal test of our hypothesis by re-estimating Eq.1 with (i) the reported difference between predicted happiness (win minus loss) as an additional explanatory variable in Model 1, and (ii) predictions of post-match happiness for win and loss as two separate additional explanatory variables in Model 2, and report the results in Table 4. Consistent with our hypothesis, Model 1's results suggest that the difference in the predicted happiness plays an integral part in determining subjects' betting strategies in the "**Free choice**" treatment. For instance, compared to keeping the money, the probabilities of betting for England's opponent

to win or to bet for a draw is significantly lower for people who predicted to be significantly happier from an England win than unhappier from an England loss, i.e., predicted happiness gain *minus* predicted happiness loss < 0. The opposite is true for the probability to bet for England to win; the more significant the gap in predicted happiness, the more likely is the bet for England to win in the next game.

Qualitatively similar results are also obtained in Model 2. Here, we can see that predicted happiness from an England win increases the probability of making a bet over keeping the money, although it is more positively correlated with betting for England to win. By contrast, predicted happiness from an England loss is positively and statistically significantly correlated with the decision to bet for England's opponent, but not the decision to bet for England. This finding implies that subjects who anticipated to become significantly unhappy by an England loss were also significantly less likely to engage in emotional hedging, holding other things constant.

Tables 4's results also confirm that the odds related to England winning is not one of the main determinants of our subjects' betting strategy in any of our models. What seems to matter much more to the way we make our decisions is the predicted (or expected) happiness from different possible scenarios, as well as the desire to make the most money and to avoid betraying their team identity. Moreover, because the intense loyalty to their team identity heavily drives most of our subjects, the majority (approximately 72%) ended up overestimating the extent of happiness of an England win compared to the extent of the unhappiness of an England loss. This, we believe, helps to explain why significantly more people chose to bet for an England to win even when, given the risk and uncertainty of an eventual outcome, it is not emotionally beneficial to do so.

3.4. Constraints on generality

In this subsection, we take the opportunity to express what we believe to be the constraints on the generality of our findings (Simons et al., 2017). We have shown that most of our subjects do not engage in emotional hedging during the 2018 FIFA World Cup even when it may be emotionally beneficial to do so. Thus, we expect the results to generalize to other major sporting events in which subjects have a strong identity with the team(s) involved in the competition. While we do not have evidence that the findings will be reproducible outside the domain of sporting competition, we believe that our results would have been generalizable across non-sporting events where people have an identity-relevant outcome in mind, e.g., the E.U. Referendum or the U.S. Presidential Election. We also believe the results will be reproducible with students from similar subject pools serving as participants, although we have no evidence to suggest that the results will be reproducible for the general population. Finally, we have no reason to believe that the results depend on other characteristics of the subjects, materials, or context.

4. Discussions and limitations

There are a number of potential issues and limitations with regards to our findings. One objection is that our sample size may be too small to detect effects. Using a power analysis in STATA, the sample size required to obtain .80 power to detect a medium effect size of 0.75 at the standard 0.05 alpha error probability is approximately 47 observations in each group. With a repeated sampling design, we began with 192 observations in the "**Free choice**" group, 74 in the "**Bet for England**" group, and 83 in the "**Bet for England's Opponent**" group. However, given that we had no control over the outcomes of all England's matches, we were not able to predetermine the number of observations we would end up with in each group following an

England win and an England loss, as well as the number of observations in each choice set in the "**Free choice**" group. As a result, the power to detect a medium effect size in our test ranges from 0.38 for the smallest group (bet for a draw) to 0.89 (bet for England to win), depending on the number of observations in each cell.[13] Nevertheless, we have not drawn any conclusions from these low powered choices. In addition to this, we are confident that we have sufficient number of subjects who chose to bet for England to win in the "**Free choice**" treatment, as well as those who were forced to bet for either England or England's opponent to win, to obtain between 0.7 and 0.89 power to detect a medium effect size. We also acknowledge that a better design would have been to conduct a series of survey experiments in which a large N of both England's supporters and the other team's supporters are surveyed. This would have guaranteed us a large number of observations of subjects who had experienced a win and a loss per England match. Unfortunately, it was impossible for us to find sufficient number of participants who supported each of England's opponents at the time to execute the above design.

A further concern is the possibility that our subjects modified their behaviours/responses to comply with what they think are appropriate behaviours/responses demanded by the experimenters (Zizzo, 2010). However, we believe that we had managed to circumvent or at least minimise the experimenter demand effect for the following reasons. First, given that participants were randomised into three different treatments in each round, it is unlikely that they would have figured out what the aim of our research was and, consequently, what the appropriate responses or behaviours were. Second, subjects had no way of knowing the outcome of each England's match before it was played. Since they were engaging in a real-life gamble with potential winnings at stake, it seems natural to assume that their incentives

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[13] For instance, we simply did not have enough observations of people who bet for a draw in the "Free choice" group to detect any effect.

were to maximize potential earnings and not attempting to figure out the behaviours/responses that are demanded by the experimenters. Finally, since this was an online experiment, the subjects and the experiments had never met face-to-face, which in turn should reduce the possibility of an experimenter demand effect.

Another conceptual concern is that the affective forecasting results were not the outcome of some cognitive biases such as the impact bias or durability bias as suggested by Gilbert and Wilson (2000). Rather, it may be the case that affective forecasters strategically overestimate the hedonic impact of future events as a means to motivate them to obtain or avoid the forecasted experience; a strategy known as "motivated reasoning" (Morewedge & Buechel, 2013). For example, students may strategically overpredict the negative effect of failing an exam a motivation to work harder to avoid it. However, it is unlikely that motivated reasoning applies in the case of predicting future emotional impacts of a World Cup match. This is because, according to Morewedge and Buechel (2013), forecasters only exhibit motivated reasoning if they believe that their behaviours can influence the outcome; for example, like studying harder for an exam or training harder for a sports competition. As far as we know, there are no good reasons to believe that any of our subjects' forecasted affects have had any influence on England's fortunes in the competition.[14]

5. Conclusions

Many of us have a strong preference to stay loyal to people whom we identify with socially. There are potentially many reasons for this, but one of the main reasons stated in the literature is that most of us expect that there would be a sizeable diagnostic cost on our utility that comes

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[14] Although if there is provable evidence of any subjects exhibiting motivated reasoning here, we would love to buy them a drink as a thank you for whatever they did to get England to the semi-final of the World Cup for the first time in nearly thirty years.

from betraying our social identity. Hence, our expectation of a negative psychological impact from the negative self-signalling explains why we tend to bet on our favourites to win in a competition even when it appears to be more rational to bet against rather than on desired outcomes (Morewedge et al., 2016; Tang et al., 2017).

In this paper, we conducted a lab-in-the-field experiment to test whether we can justify people's decision not to hedge by studying their experienced utility (or *ex post* happiness). Using the 2018 FIFA World Cup as our case study, we first showed that most England supporters bet on England to win in each of the England matches, which is consistent with the evidence in the disloyalty aversion literature. However, from our analysis of the England supporters' pre- and post-match happiness, we found little evidence of any emotional benefits to betting on England to win when England went on to win the game. By contrast, we showed that people who bet on England to win tend to report a significant drop in happiness following an England loss. Additionally, we did not find evidence of a significant drop in happiness following an England win or a significant increase in happiness following an England loss among England supporters who chose to hedge or having been forced to hedge. We then demonstrated that this mismatch between people's decision utility and experienced utility is due partly to the fact that people often overestimate the size of the expected diagnostic cost of the negative self-signal associated with emotional hedging, while underestimate the negative emotional impact of betting on their favourite team to win when they did not win.

Like all studies in social sciences, our work is not without limitations. As previously mentioned, one of the biggest shortcomings of our study is the relatively low power to detect effects. However, we believe that our findings have offered new insights into the puzzling findings of many home bias behaviours in the sporting and financial markets, and that betting on our favourites to win may not be the optimal strategy, at least in terms of happiness, even when we get the results that we desired. Future research should therefore return with a larger

sample size – at least 60 observations per group – and retest our hypotheses across different

settings like the U.S. Presidential Election, for example.

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Figure 1: Proportions of different betting decisions
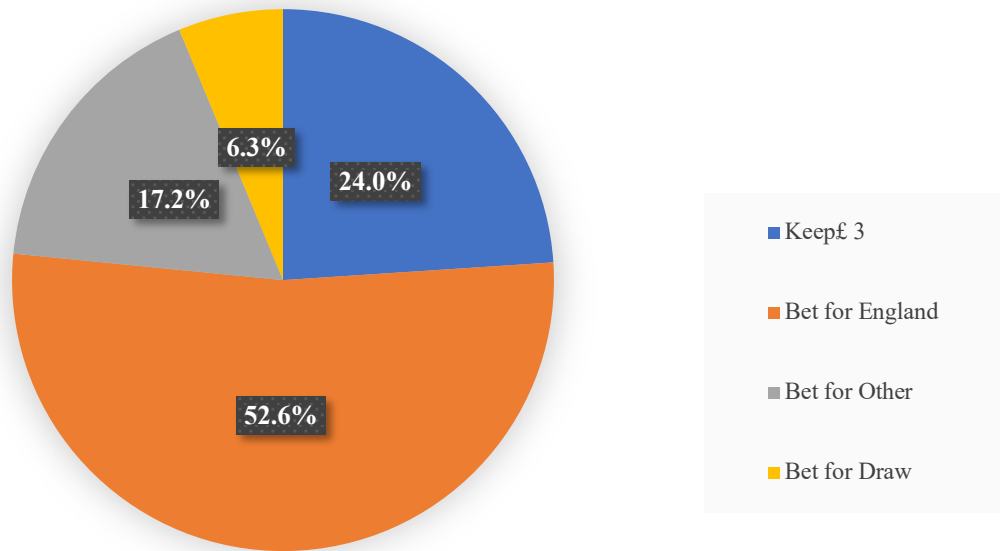
Note: Subjects are taken from the "Free bet" treatment (N = 192). Number of observations: Keep £3 (N=46), Bet for England (N=101), Bet for Other (N=33), and Bet for Draw (N=12).

Figures 2A-2B: Proportions of different betting decisions by World Cup Stage
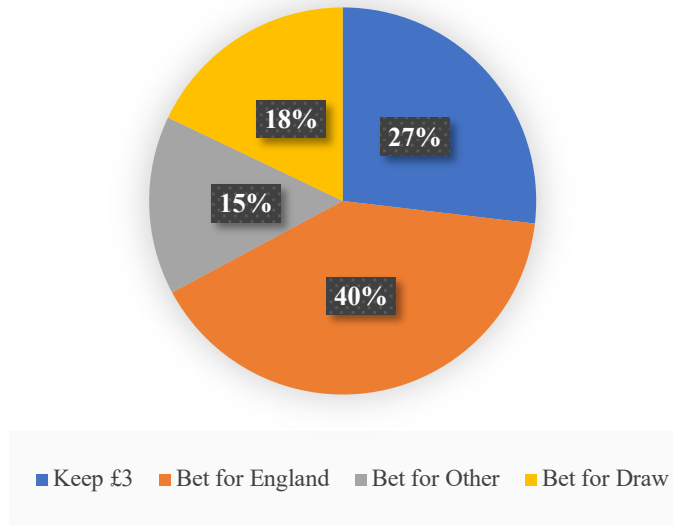
Figure 2A: Group stage (N=67)
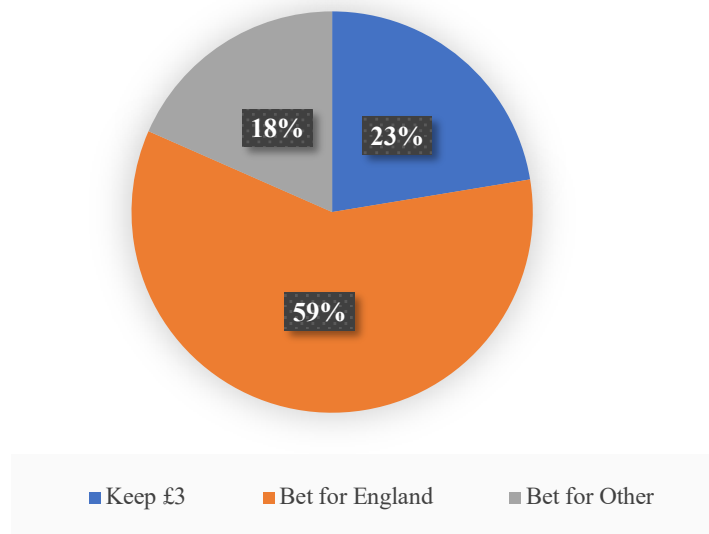
Figure 2B: Knockout stages (N=125)[15]

Note: Subjects are taken from the "Free bet" treatment (N = 192). Number of observations (group stage): Keep £3 (N=18), Bet for England (N=27), Bet for Other (N=10), and Bet for Draw (N=12). Number of observations (knockout stage): Keep £3 (N=28), Bet for England (N=74), and Bet for Other (N=23),

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[15] There were no draws during the knockout stages.

Table 1: Multinomial Logit Betting Decisions – All stages

|	Model 1		Model 2	
	Bet for England to Win	**Bet for Other to Win (Hedge)**	**Bet for England to Win**	**Bet for Other to Win (Hedge)**
England won in the previous match	3.498	2.454	6.223	2.319
	(2.534)	(3.285)	(3.848)	(3.333)
Odds England Winning	2.064	1.177	4.035*	1.345
	(1.358)	(1.747)	(2.120)	(1.901)
Odds Other Winning	0.203	0.0202	0.489	0.282
	(0.138)	(0.185)	(0.364)	(0.417)
Stage: Knockout	5.346**	3.269	9.609**	1.818
	(2.490)	(3.368)	(4.277)	(3.635)
Subjective risk profile	0.612***	0.629***	0.984***	0.845***
	(0.161)	(0.180)	(0.268)	(0.286)
England as 1st favourite team	-0.863	-2.069***	-1.907	-3.415**
	(0.737)	(0.695)	(1.486)	(1.462)
Gender: Female	-0.690	-1.072*	-1.525	-2.673***
	(0.506)	(0.597)	(0.934)	(0.895)
Nationality: Other	-0.943	-0.991	-0.970	-0.604
	(0.706)	(0.691)	(0.615)	(0.822)
Pre-Match Happiness	-0.330	-0.408	-0.278	-0.438
	(0.245)	(0.265)	(0.493)	(0.505)
Accumulated Payment	-0.0544*	-0.0659	-0.0515	0.0107
	(0.0293)	(0.0433)	(0.0445)	(0.0590)
How strongly agree/disagree				
Highest Chance of Winning			0.478**	0.235
			(0.207)	(0.145)
Paid Most Money			0.210	0.819***
			(0.212)	(0.194)
Wanted to Hedge			-1.534***	-0.844**
			(0.404)	(0.417)
Have Something to be Happy about			0.328	0.508*
			(0.236)	(0.296)
Wanted to be Loyal			0.435	-0.143
			(0.283)	(0.276)
Won't Enjoy Money if Other Team Wins			0.447**	0.00424
			(0.206)	(0.202)
Constant	-16.87	-7.413	-36.31*	-11.25
	(11.96)	(15.16)	(18.53)	(17.50)
Observations	180		143	
Pseudo R2	0.138		0.483	
Log Pseudo Likelihood	-152.60		-73.18	

Note: Robust standard errors clustered at the individual level are in parentheses.

Outcome variables are 0 = keep £3 (reference group; N=46); 1 = bet for England to win (N=101); 2 = bet for England's opponent to win (N=33). Given that there are only 12 observations who bet for a draw, we have decided to leave this category out from our multinomial logit equation.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Figures 3A-3B: Average pre- and post-match general and specific happiness by betting decisions
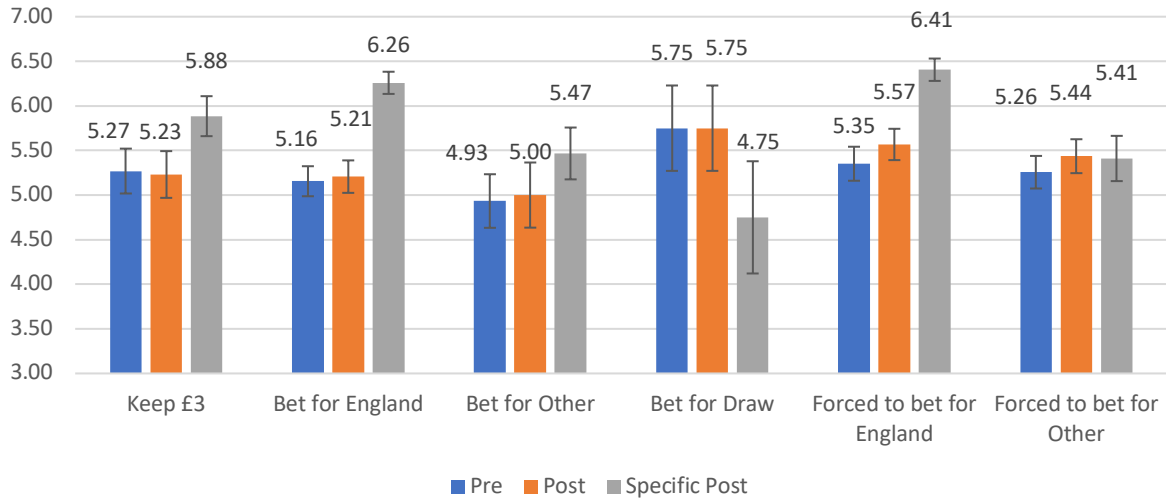
Figure 3A: England won the match
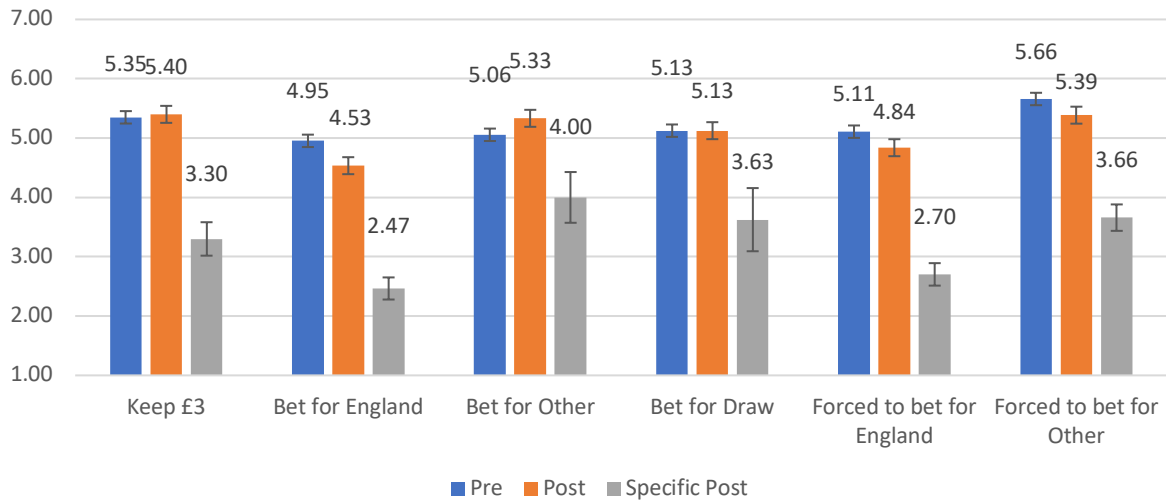
Figure 3B: England lost the match

Table 2: First-differenced post- and pre-match general happiness following a win and a loss: random-effects and fixed-effects regressions

	(1) RE England Won Match	(2) RE England Won Match	(3) FE England Won Match	(4) FE England Won Match	(5) RE England Lost Match	(6) RE England Lost Match	(7) FE England Lost Match	(8) FE England Lost Match
Bet for England to win	-0.000579	1.437	-0.0366	-1.484	-0.445*	-0.523**	-0.659*	-0.915**
	(0.252)	(2.982)	(0.330)	(3.404)	(0.228)	(0.263)	(0.375)	(0.387)
Bet for the other team to win	-0.0397	-3.533	-0.00299	3.114	0.111	0.337	-0.591	0.127
	(0.294)	(6.738)	(0.381)	(7.856)	(0.295)	(0.345)	(0.484)	(0.488)
Bet for Draw	0.0183	-3.546	0.203	3.316	-0.426	-0.609**	0.0355	-0.533
	(0.195)	(6.833)	(0.326)	(8.121)	(0.267)	(0.308)	(0.680)	(0.719)
Forced Bet for England to win	0.204	1.680	0.251	-1.140	-0.335	-0.470	-0.272	-0.696*
	(0.271)	(2.977)	(0.377)	(3.384)	(0.235)	(0.286)	(0.341)	(0.403)
Forced Bet for the other to win	0.0913	-3.431	0.0559	3.164	-0.474**	-0.332	-0.494	-0.110
	(0.242)	(6.773)	(0.327)	(7.951)	(0.220)	(0.249)	(0.349)	(0.370)
Stage: Knockout	-0.0344	2.755*	-0.0178	0.601	-0.449***	-2.380**	-0.0807	-2.524**
	(0.129)	(1.667)	(0.145)	(1.704)	(0.156)	(0.960)	(0.163)	(1.043)
Subjective risk profile	0.115**	0.113**	0.148	0.156	0.00558	-0.00153	0.0136	-0.0540
	(0.0530)	(0.0534)	(0.114)	(0.107)	(0.0427)	(0.0435)	(0.150)	(0.149)
Watch match: No	-0.0985	-0.124	0.176	0.203	0.173	0.112	-0.0301	-0.255
	(0.168)	(0.168)	(0.285)	(0.288)	(0.138)	(0.137)	(0.295)	(0.325)
England as 1st favourite team	-0.142	-0.115			-0.329**	-0.280		
	(0.166)	(0.162)			(0.165)	(0.179)		
Gender: Female	0.0259	0.0264			-0.135	-0.109		
	(0.155)	(0.150)			(0.125)	(0.132)		
Nationality: Other	0.0841	0.0871			-0.148	-0.0987		
	(0.182)	(0.171)			(0.220)	(0.243)		
Accumulated Payment		0.00968		-0.0115		0.00565		-0.0121
		(0.0158)		(0.0316)		(0.0105)		(0.0365)
Individual Payment		-1.180		1.053		-0.0563		-0.161**
		(2.267)		(2.625)		(0.0519)		(0.0646)
Maximum Potential Payment		0.176*		0.0232		-1.275*		-1.777**
		(0.107)		(0.119)		(0.676)		(0.736)
Constant	-0.281	2.492	-0.553	-8.599	0.681***	16.45**	0.221	23.40**
	(0.277)	(14.30)	(0.430)	(17.86)	(0.235)	(8.367)	(0.630)	(9.419)

Observations	179	179	179	179	170	170	170	170
Number of groups	85	85	85	85	77	77	77	77
R^2	0.052	0.075	0.022	0.024	0.133	0.162	0.013	0.018

Note: Robust standard errors clustered at the individual level are in parentheses.

Dependent variable = post-match general happiness *minus* pre-match general happiness. RE = random-effects model. FE = fixed-effects model. Time-invariant characteristics, e.g., England as 1st favourite team, gender, and nationality are naturally dropped in the FE regressions. Number of observations (England win): Keep £3 (N=26), Bet for England (N=58), Bet for Other (N=15), Bet for Draw (N=4), Forced bet for England (N=37), and Forced bet for other (N=39). Number of observations (England loss): Keep £3 (N=20), Bet for England (N=43), Bet for Other (N=18), Bet for Draw (N=8), Forced bet for England (N=37), and Forced bet for other (N=44).

$^*p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$

Table 3: First-differenced post- and pre-match happiness specific to the outcome of the match following a win and a loss: random-effects and fixed-effects regressions

	(1) RE England Won Match	(2) RE England Won Match	(3) FE England Won Match	(4) FE England Won Match	(5) RE England Lost Match	(6) RE England Lost Match	(7) FE England Lost Match	(8) FE England Lost Match
Bet for England to win	0.0989	-0.704	-0.107	-0.0229	-0.396	-0.534	-1.179***	-1.148**
	(0.255)	(3.273)	(0.306)	(3.770)	(0.379)	(0.438)	(0.385)	(0.477)
Bet for the other team to win	0.0109	2.069	0.117	0.241	0.680	0.917	-0.453	0.156
	(0.370)	(7.469)	(0.367)	(8.673)	(0.521)	(0.665)	(0.564)	(0.699)
Bet for Draw	-0.996*	1.059	-0.911	-0.881	-0.0904	-0.370	-0.306	-0.556
	(0.572)	(7.605)	(0.726)	(8.942)	(0.806)	(0.887)	(1.043)	(1.132)
Forced Bet for England to win	0.349	-0.508	0.265	0.288	-0.408	-0.667	-0.932**	-1.129**
	(0.284)	(3.173)	(0.323)	(3.690)	(0.365)	(0.435)	(0.375)	(0.478)
Forced Bet for the other to win	-0.410	1.673	-0.567*	-0.395	-0.231	-0.108	-0.702*	-0.332
	(0.296)	(7.539)	(0.335)	(8.708)	(0.382)	(0.409)	(0.378)	(0.399)
Stage: Knockout	0.183	-2.760	0.0657	-2.068	-0.994***	-4.382***	-1.031***	-4.465***
	(0.152)	(2.014)	(0.151)	(2.037)	(0.274)	(1.125)	(0.300)	(1.089)
Subjective risk profile	0.00269	0.00833	-0.0157	-0.0226	-0.0582	-0.0593	0.321	0.312
	(0.0680)	(0.0662)	(0.130)	(0.122)	(0.117)	(0.119)	(0.319)	(0.335)
Watch match: No	-0.821***	-0.797***	-0.719**	-0.702**	0.131	-0.0498	-1.157***	-1.521***
	(0.256)	(0.250)	(0.338)	(0.325)	(0.367)	(0.372)	(0.428)	(0.431)
England as 1st favourite team	0.537*	0.511*			-0.647**	-0.564		
	(0.275)	(0.274)			(0.329)	(0.347)		
Gender: Female	0.590**	0.544**			-0.0429	-0.0708		
	(0.266)	(0.256)			(0.354)	(0.367)		
Nationality: Other	-0.182	-0.228			0.311	0.290		
	(0.324)	(0.321)			(0.378)	(0.373)		
Accumulated Payment		-0.0300		-0.0321		-0.0132		0.0423
		(0.0194)		(0.0370)		(0.0179)		(0.0540)
Individual Payment		0.718		0.0572		-0.0616		-0.113
		(2.496)		(2.879)		(0.0998)		(0.0950)
Maximum Potential Payment		-0.203		-0.157		-2.591***		-1.744
		(0.130)		(0.139)		(0.846)		(1.144)
Constant	0.0743	1.493	1.045**	5.651	-0.660	31.38***	-1.636	19.91
	(0.347)	(15.73)	(0.464)	(19.58)	(0.562)	(10.36)	(1.097)	(14.74)
Observations	179	179	179	179	170	170	170	170

Number of groups	85	85	85	85	77	77	77	77
R^2	0.247	0.265	0.145	0.170	0.164	0.186	0.006	0.008

**Note:** Robust standard errors clustered at the individual level are in parentheses.

Dependent variable = post-match happiness specifically related to the outcome of the match *minus* pre-match general happiness. RE = random-effects model. FE = fixed-effects model. Time-invariant characteristics, e.g., England as 1st favourite team, gender, and nationality are naturally dropped in the FE regressions. See Table 2 for the number of observations in each group.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Figure 4: Average pre-match happiness, post-match happiness, and predicted happiness if England win or lose by betting decisions
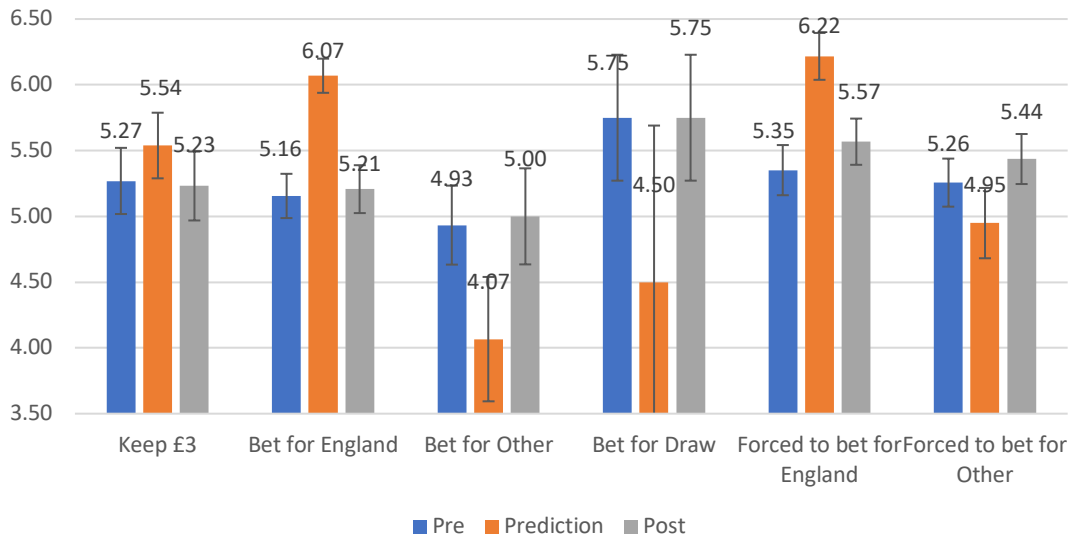
Figure 4A: Predicted happiness in the case of an England win and pre- and post-happiness when England won the match
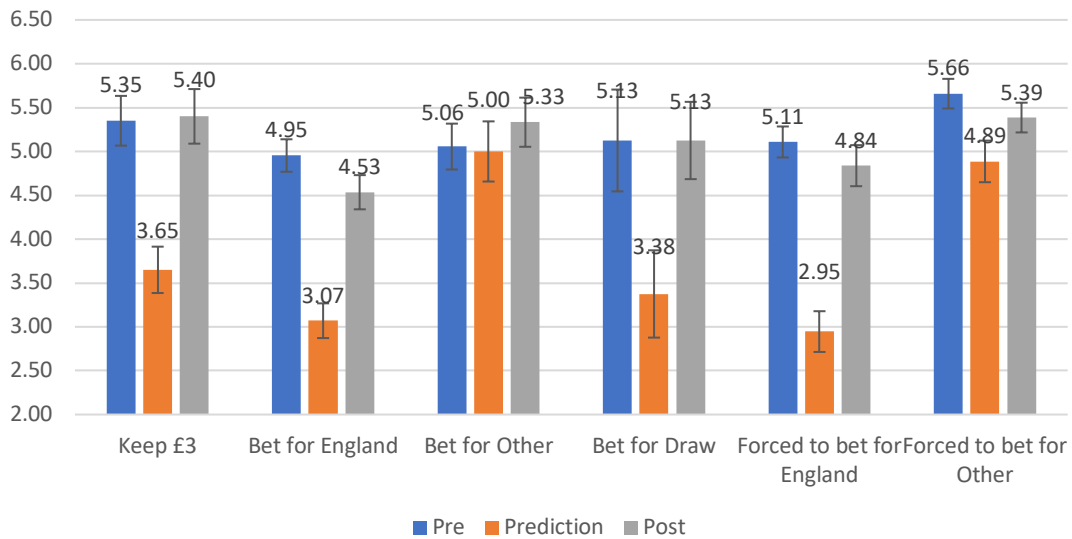
Figure 4B: Predicted happiness in the case of an England loss and pre- and post-happiness when England lost the match

Table 4: Multinomial Logit Betting Decisions Including Differences in Predicted Happiness

	Model 1		Model 2	
	Bet for England to Win	Bet for Other to Win (Hedge)	Bet for England to Win	Bet for Other to Win (Hedge)
Difference in the predicted general happiness (win minus loss)	0.473*	-0.808**		
	(0.262)	(0.325)		
Predicted post-match general happiness if England win			1.643***	1.001**
			(0.508)	(0.442)
Predicted post-match general happiness if England lose			0.304	2.239***
			(0.510)	(0.480)
England won in the previous match	6.609	6.720	5.550	7.661
	(4.412)	(4.641)	(5.401)	(5.831)
Odds England Winning	4.497*	3.998	4.182	4.585
	(2.502)	(2.474)	(3.089)	(3.133)
Odds Other Winning	0.471	0.784	0.425	0.761
	(0.361)	(0.553)	(0.403)	(0.633)
Stage: Knockout	9.855*	6.915	9.425	8.426
	(5.188)	(4.566)	(6.300)	(6.006)
Subjective risk profile	1.020***	0.578	1.067***	0.503
	(0.288)	(0.354)	(0.341)	(0.437)
England as 1st favourite team	-2.714*	-3.454**	-2.567	-2.767
	(1.605)	(1.706)	(1.834)	(1.887)
Gender: Female	-1.187	-3.493***	-1.307	-3.831***
	(1.040)	(1.224)	(0.929)	(1.238)
Nationality: Other	-0.874	-0.884	-1.041	-0.661
	(0.607)	(1.250)	(0.786)	(1.192)
Pre-Match Happiness	-0.494	-0.0817	-0.996	-1.091**
	(0.560)	(0.553)	(0.613)	(0.490)
Accumulated Payment	-0.0660	0.0644	-0.0655	0.0333
	(0.0485)	(0.0690)	(0.0724)	(0.0729)
How strongly agree/disagree				
Highest Chance of Winning	0.498**	0.370**	0.437	0.550**
	(0.244)	(0.189)	(0.290)	(0.241)
Paid Most Money	0.239	0.880***	0.378	1.236***
	(0.216)	(0.199)	(0.250)	(0.258)
Wanted to Hedge	-1.557***	-0.695	-1.803***	-1.189***
	(0.397)	(0.498)	(0.385)	(0.411)

Have Something to be Happy about	0.332	0.896***	0.181	0.989***
	(0.278)	(0.340)	(0.301)	(0.317)
Wanted to be Loyal	0.309	0.0450	0.164	-0.0534
	(0.272)	(0.366)	(0.276)	(0.361)
Won't Enjoy Money if Other Team Wins	0.388*	0.116	0.649**	0.584**
	(0.208)	(0.231)	(0.280)	(0.287)
Constant	-38.17*	-41.66*	-40.30	-57.60*
	(21.57)	(24.56)	(26.29)	(30.97)
Observations	143		143	
Pseudo R2	0.583		0.641	
Log Pseudo Likelihood	-59.03		-50.84	

Note: Standard errors in parentheses.
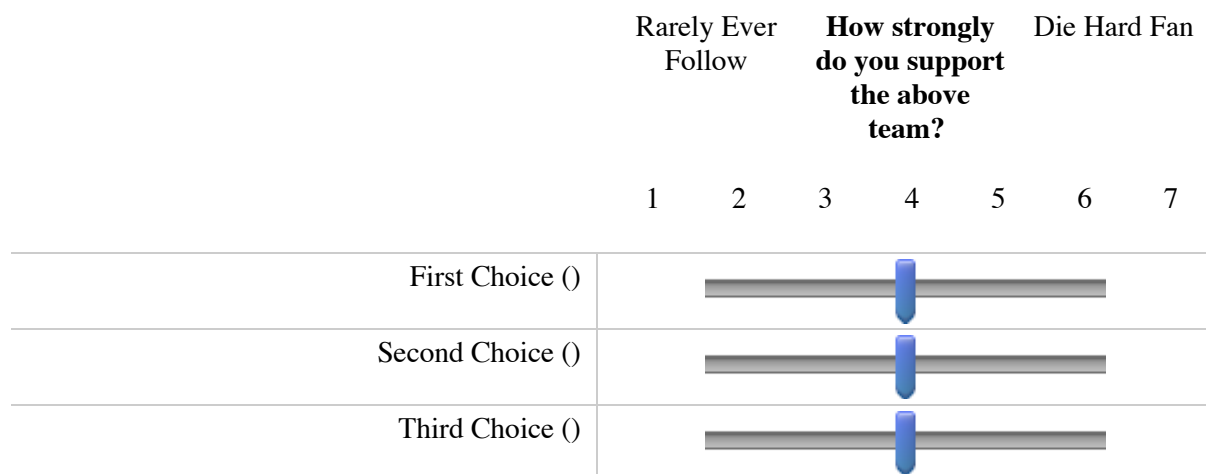* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Appendix

Appendix A: Screening instruction and questionnaire

Welcome to our online survey on people's attitudes towards the 2018 FIFA World Cup. This survey consists of 5 questions and should only take you less than 3 minutes to complete. Please make sure that you answer all of the questions in order to be eligible for the price draw, which is £5 Eating at Warwick credits. Your responses are anonymous. Thank you very much for your participation!

Q1: How much are you looking forward to the upcoming 2018 FIFA World Cup in Russia? (Measured on a scale from 1-7, in which 1: not at all, and 7: the most)

	Not At All				The Most		
	1	2	3	4	5	6	7
()							
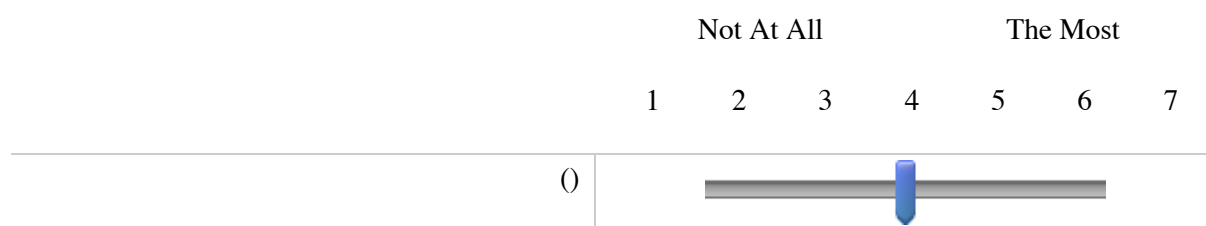
Q2: Which team(s) do you support in the 2018 FIFA World Cup? (If there are more than one, please list the top three teams in the order of preference)

	Rarely Ever Follow		**How strongly do you support the above team?**		Die Hard Fan		
	1	2	3	4	5	6	7
First Choice ()							
Second Choice ()							
Third Choice ()							

Q3: Which team do you think will win the world cup?
(You can pick up to three teams and rank your choices in the order)

○ Most Likely (1) _____

○ The Second Most likely (2)
_____

○ The Third Most Likely (3)
_____

Q4: Gender

○ Male (1)

○ Female (2)

○ Others (3)

Q5: Nationality

_____

You have now completed the survey. Thank you for your participation!

Appendix B: Main survey

B.1) Pre-match instruction and questionnaire (Treatment 1: Free Choice)

Thank you very much for taking part in this two-stage survey. In this first survey, there are 12 questions that require your responses in total. It should only take you less than 6 minutes to complete. Please make sure that you answer all of the questions in order to be eligible for the participation fees of £2 plus a potential winning that depends on the bet outcomes. You will then be sent the second survey after the England vs Belgium match, which you will then have 48 hours to complete before you can collect your winning plus another £2 participation fee (The Potential winning could be up to £9.60 + £2 + £2= £13.60). Your responses are anonymous. Thank you very much again for your participation!

Q1 In general, how happy would you say you are these days?

	Extremely unhappy					Extremely happy	
	1	2	3	4	5	6	7
Happiness ()							

Q2 We are now giving you **£3**. You now have a decision to make. Imagine now you have the following four options:(all the payoffs will be credited to you once you completed the follow-up survey that will be sent to you within 24 hours following the match between England and Belgium)

 1st option: Keep the entire 3 pounds
 2nd option: Use 3 pound to bet England to win, if England win, you will get £8.10
**3rd option**: Use 3 pound to bet Belgium to win, if Belgium win, you will get £7.87
4th option: Use 3 pound to bet on a draw, if the outcome is a draw, you will get £9.60

Please note that this bet is for the match between England **and** Belgium**, which is scheduled to be played on Thursday 28th June at 7 pm (British Time).
(The betting odds is taken from Bet365.com on Sunday 24th June)**

○ **1st option** (1)

○ **2nd option** (2)

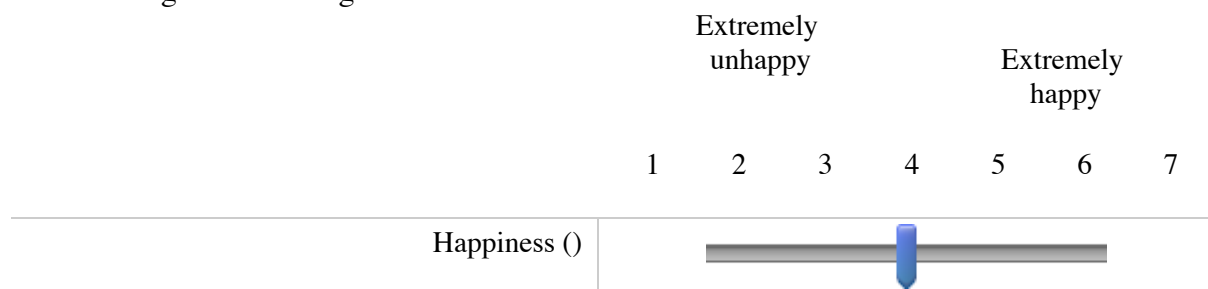○ **3rd option** (3)

○ **4th option** (4)

Q2a How happy would you be 24 hours following the match between England and Belgium if England win?

	Extremely unhappy				Extremely happy		
	1	2	3	4	5	6	7
Happiness ()							
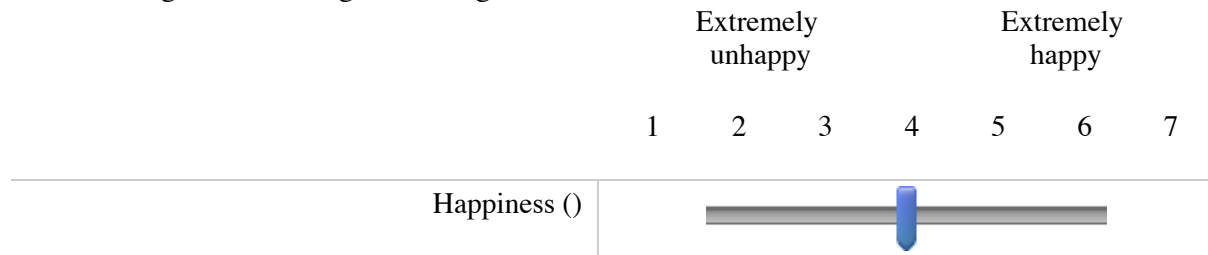
Q2b How happy would you be 24 hours following the match between England and Belgium if Belgium win?

	Extremely unhappy				Extremely happy		
	1	2	3	4	5	6	7
Happiness ()							
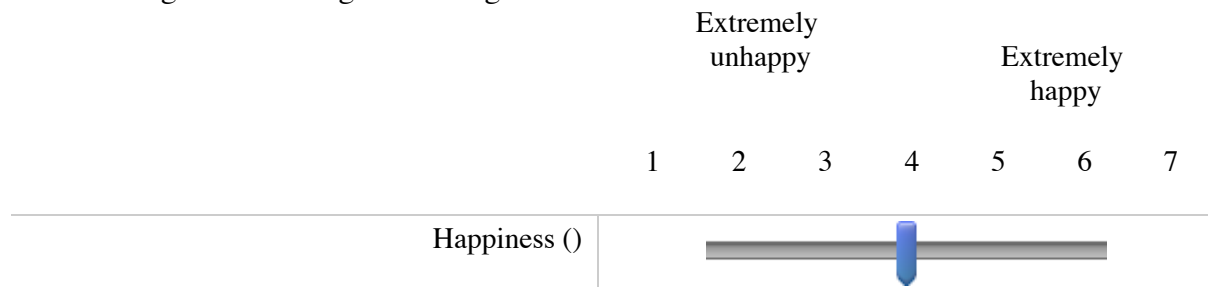
Q2c How happy would you be 24 hours following the match between England and Belgium **if the result is a draw**?

	Extremely unhappy				Extremely happy		
	1	2	3	4	5	6	7
Happiness ()							

Display This Question:

If Q2 We are now giving you £3. You now have a decision to make. Imagine now you have the following... = *2nd option*

Or Q2 We are now giving you £3. You now have a decision to make. Imagine now you have the following... = *3rd option*
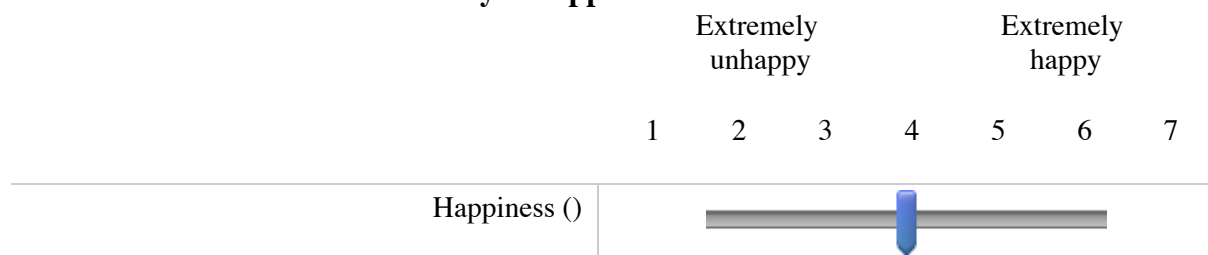
Q3 If in Q.2 you chose to bet for a team to win, did you choose the team that you support?
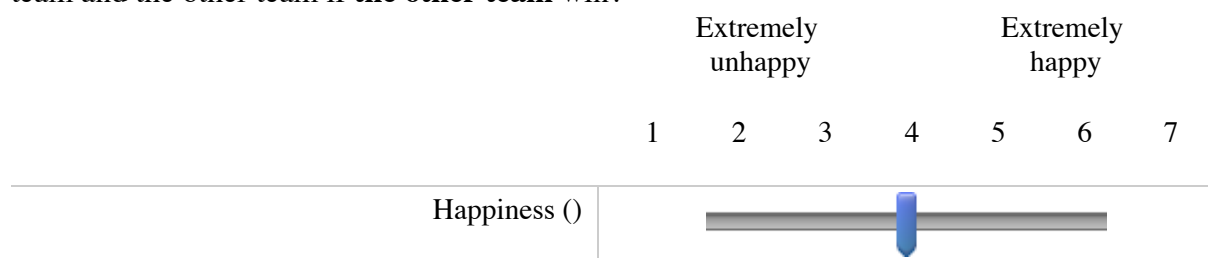
○ Yes (1)

○ No (2)

Q4 Imagine that you were told to place a bet for **the other team** to win instead of the team you support. How happy would you be in 24 hours following the match between your team and the other team if **the team you support** win?
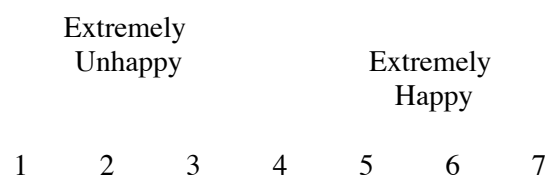
	Extremely unhappy					Extremely happy	
	1	2	3	4	5	6	7
Happiness ()							

Q5 Imagine that you were told to place a bet for **the other team** to win instead of the team you support. How happy would you be in 24 hours following the match between your team and the other team if **the other team** win?

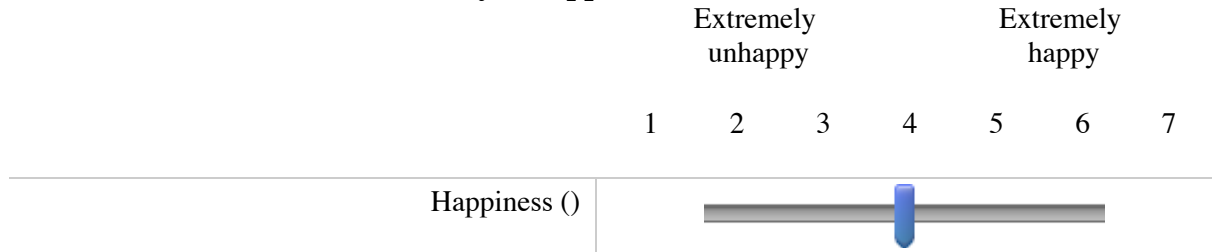|	Extremely unhappy					Extremely happy	
	1	2	3	4	5	6	7
Happiness ()							

Q6 Imagine that you were told to place a bet for **the other team** to win instead of the team you support. How happy would you be in 24 hours following the match between your team and the other team **if the result is a draw**?
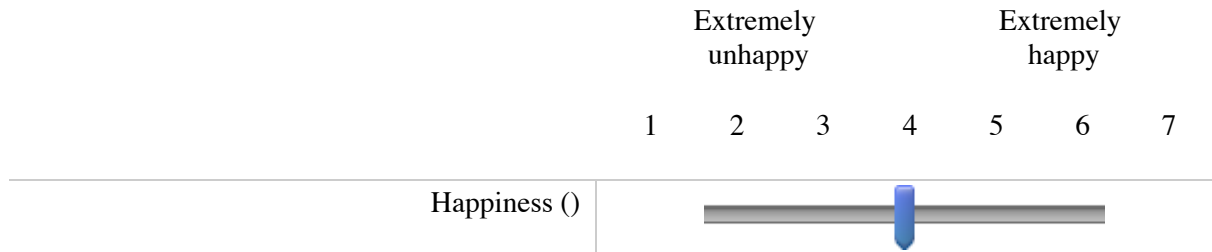
	Extremely Unhappy				Extremely Happy		
	1	2	3	4	5	6	7

Happiness ()	———————————————●———————————————

Q4 Imagine that you were told to place a bet for **the team you support** to win instead of the other team. How happy would you be in 24 hours following the match between your team and the other team if **the team you support** win?
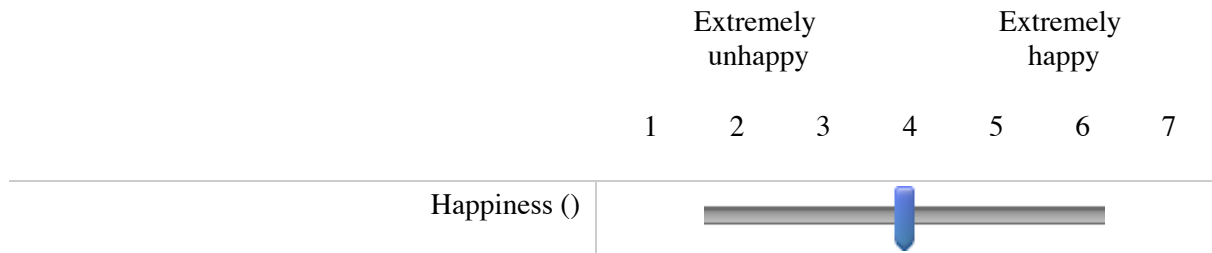
	Extremely unhappy					Extremely happy	
	1	2	3	4	5	6	7

Happiness ()	———————————————●———————————————

Q5 Imagine that you were told to place a bet for **the team you support** to win instead of the other team. How happy would you be in 24 hours following the match between your team and the other team if **the other team** win?

	Extremely unhappy					Extremely happy	
	1	2	3	4	5	6	7

Happiness ()	———————————————●———————————————

Q6 Imagine that you were told to place a bet for **the team you support** to win instead of the other team. How happy would you be in 24 hours following the match between your team and the other team **if the result is a draw**?

	Extremely unhappy					Extremely happy	
	1	2	3	4	5	6	7

Happiness ()	———————————————●———————————————

Q7: In general, please rate your willingness to take risks in betting.

	Completely Unwilling				Completely Willing		
	1	2	3	4	5	6	7
Willingness ()							

Q24 **Q8: Please indicate how strongly you agree or disagree with all the following statements which apply to you by selecting a number from 1 (Completely disagree) to 7 (Completely agree).**

	Strongly Disagree (1)	Disagree (8)	Somewhat Disagree (2)	Neither Agree or Disagree (3)	Somewhat Agree (9)	Agree (10)	Strongly Agree (11)
1. I wanted to choose the option with the highest chances of winning money. (1)	○	○	○	○	○	○	○
2. I wanted to choose the option that paid the most money. (2)	○	○	○	○	○	○	○
3. I wanted to insure myself against a bad match result. (3)	○	○	○	○	○	○	○
4. I wanted to be sure to have something to be happy about -- (either winning money or having my supported team win). (8)	○	○	○	○	○	○	○
5. I wanted to be loyal. (4)	○	○	○	○	○	○	○
6. I would not enjoy the money that I received if my opposing team won. (5)	○	○	○	○	○	○	○

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Q9: Gender

    ◯ **Male** (1)

    ◯ **Female** (2)

    ◯ **Others** (3)

Q10: Nationality

_____

You have now completed the survey. Thank you for your participation!

B.2) Pre-match instruction and questionnaire (Treatment 2a: Forced bet for England)

All questions are the same as in B.1 except for Q2:

Q2 Thank you very much for taking part in this two-stage survey. In this first survey, there are 10 questions that require your responses in total. It should only take you less than 5 minutes to complete. Please make sure that you answer all of the questions in order to be eligible for the participation fees of £2 plus a potential winning that depends on the bet outcomes. You will then be sent the second survey after the England vs Belgium match, which you will then have 48 hours to complete before you can collect your winning plus another £2 participation fee (The Potential winning could be up to £6.60 + £2 + £2= £10.60). Your responses are anonymous. Thank you very much again for your participation!

B.3) Pre-match instruction and questionnaire (Treatment 2a: Forced bet for England's Opposition)

All questions are the same as in B.1 except for Q2:

Q2 Thank you very much for taking part in this two-stage survey. In this first survey, there are 10 questions that require your responses in total. It should only take you less than 5 minutes to complete. Please make sure that you answer all of the questions in order to be eligible for the participation fees of £2 plus a potential winning that depends on the bet outcomes. You will then be sent the second survey after the England vs Belgium match, which you will then have 24 hours to complete before you can collect your winning plus another £2 participation fee (The Potential winning could be up to £5 + £2 + £2= £9). Your responses are anonymous. Thank you very much again for your participation!

B.4) Post-match instruction and questionnaire

Thank you very much for taking part in this two-stage surveys. In this second survey, there are 4 questions that require your responses in total. It should only take you less than 2 minutes to complete. Please make sure that you answer all of the questions within 48 hours, in order to be eligible to claim your previous bet winning and another £2 participation fee. Your responses are anonymous. Thank you very much again for your participation!

Q1: In general, how happy would you say you are these days?

	Extremely unhappy				Extremely happy		
	1	2	3	4	5	6	7
()							
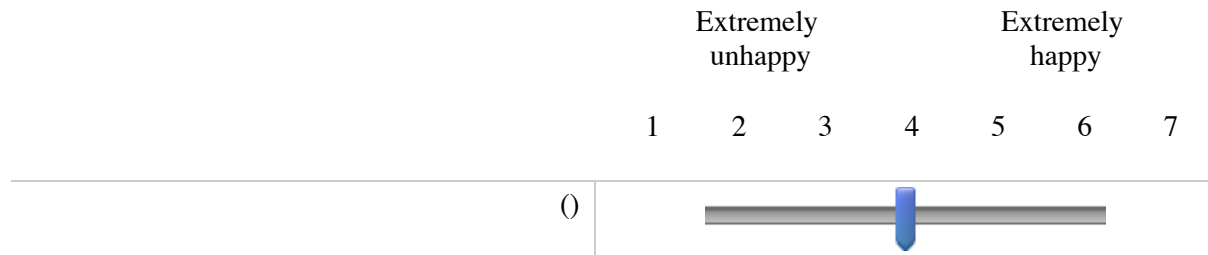
Q2: Did you watch the match between **England** and Belgium ?

○ Yes (1)

○ No (2)

Q2a: If you watched the match, how would you rate your level of enjoyment while you were watching it?

	Did not enjoy at all				Completely enjoyable		
	1	2	3	4	5	6	7
()							
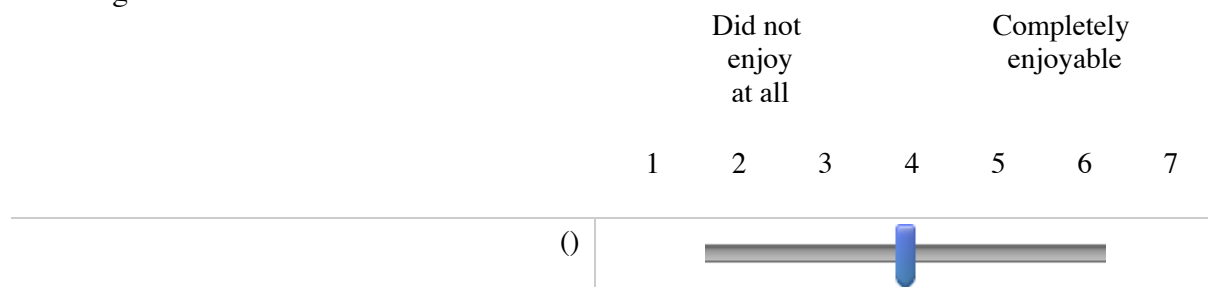
Q3: How happy do you feel about the outcome of the match between **England** and Belgium? (The score was: **England** 0: 2 Belgium)

	Extremely unhappy				Extremely happy		
	1	2	3	4	5	6	7

()	⟷

Q4: Knowing the outcome of the match, do you regret the betting decision?

○ Yes (1)

○ No (2)

You have now completed the survey. Thank you for your participation!

Appendix C: Summary statistics

	Treatment 1: Free choice	Treatment 2: Forced bet for England	Treatment 3: Forced bet for England's opponent
Pre-match happiness	5.13	5.22	5.46
	(1.24)	(1.11)	(1.14)
England as 1st favourite team	0.76	0.79	0.53
	(0.42)	(0.40)	(0.50)
Gender: Female	0.60	0.58	0.51
	(0.49)	(0.49)	(0.50)
Nationality: Other	0.17	0.17	0.34
	(0.37)	(0.38)	(0.47)
No. of unique individuals	76	48	57
N	192	74	83

Note: We cannot reject t-tests of equality (with standard errors clustered at the individual level) for any pair of characteristics across different treatments.

Appendix D: Reasons behind betting choices in the "Free choice" group

Reasons behind choice: 1="Strongly disagree", …, 7="Strongly agree"	Keep £3	Bet for England	Bet for Other	Bet for Draw
A: "Highest chance of winning"	4.47	4.51	4.82	5.75
	(1.76)	(1.76)	(1.69)	(0.88)
B: "Paid the most money"	3.32	3.35	5.00	4.62
	(1.34)	(1.63)	(1.69)	(1.40)
C: "Want to hedge my chance"	5.02	3.31	4.62	3.37
	(1.44)	(1.36)	(1.26)	(1.30)
D: "Have something to be happy about"	4.35	3.92	4.65	4.75
	(1.63)	(1.67)	(1.71)	(1.66)
E: "Want to be loyal"	3.52	4.81	3.31	3.00
	(1.70)	(1.51)	(1.49)	(1.41)
F: "Will not enjoy money if the other team win"	2.47	3.61	2.34	3.37
	(1.61)	(1.72)	(1.42)	(1.84)
Observations	34	84	29	8

Note: Standard deviations are in parentheses.

Appendix E: First-differenced post- and pre-match general happiness following a win and a loss with prior treatment as a control variable: random-effects and fixed-effects regressions

	(1) RE England Won Match	(2) RE England Lost Match	(3) FE England Won Match	(4) FE England Lost Match
Bet for England to win	2.654	-0.547**	-0.453	-0.953**
	(3.024)	(0.274)	(3.294)	(0.385)
Bet for the other team to win	-6.296	0.332	0.642	0.0749
	(6.742)	(0.339)	(7.394)	(0.454)
Bet for Draw	-6.357	-0.692**	0.908	-0.664
	(6.888)	(0.313)	(7.759)	(0.709)
Forced Bet for England to win	2.855	-0.510*	-0.235	-0.680*
	(3.029)	(0.299)	(3.273)	(0.398)
Forced Bet for the other to win	-6.197	-0.344	0.699	-0.155
	(6.806)	(0.235)	(7.542)	(0.327)
Stage: Knockout	2.325	-2.319**	0.796	-2.466**
	(1.672)	(0.960)	(1.697)	(1.058)
Subjective risk profile	0.106*	-0.00200	0.141	-0.0389
	(0.0549)	(0.0438)	(0.103)	(0.153)
Watch match: No	-0.116	0.119	0.192	-0.252
	(0.170)	(0.139)	(0.315)	(0.335)
England as 1st favorite team	-0.0902	-0.323*		
	(0.168)	(0.171)		
Gender: Female	0.0388	-0.142		
	(0.149)	(0.140)		
Nationality: Other	0.128	-0.110		
	(0.181)	(0.239)		
Accumulated Payment	-0.00586	0.00226	-0.0101	-0.0152
	(0.0208)	(0.0108)	(0.0326)	(0.0387)
Individual Payment	-2.091	-0.0592	0.249	-0.155**
	(2.281)	(0.0533)	(2.502)	(0.0642)
Maximum Potential Payment	0.167	-1.269*	0.0372	-1.779**
	(0.105)	(0.657)	(0.129)	(0.742)
Bet for England treatment in t-1	-0.223	0.0492	-0.387	0.177
	(0.342)	(0.217)	(0.361)	(0.339)
Bet for opposition treatment in t-1	0.104	-0.197	0.188	-0.0284
	(0.221)	(0.203)	(0.343)	(0.299)
No prior treatment, i.e., 1st time participating	-0.529	-0.0392	-0.0156	0.0207
	(0.449)	(0.243)	(0.389)	(0.333)
Constant	9.798	16.55**	-3.264	23.35**
	(14.65)	(8.113)	(16.51)	(9.473)
Observations	179	170	179	170
Number of groups	85	77	85	77
R^2	0.089	0.168	0.103	0.172

Note: Robust standard errors clustered at the individual level are in parentheses.
Dependent variable = post-match general happiness *minus* pre-match general happiness. RE = random-effects model. FE = fixed-effects model. Time-invariant characteristics, e.g., England as 1st favorite team, gender, and nationality are naturally dropped in the FE regressions.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Appendix F: Enjoyment while watching the game as dependent variable

	(1) RE	(2) RE	(3) FE	(4) FE
	England Won Match	England Lost Match	England Won Match	England Lost Match
Bet for England to win	-1.378	-0.517	-0.170	-0.383
	(3.865)	(0.424)	(5.051)	(0.520)
Bet for the other team to win	2.552	0.197	1.229	0.305
	(9.240)	(0.622)	(12.02)	(0.602)
Bet for Draw	2.590	-1.090*	-0.218	-0.592
	(9.335)	(0.634)	(12.17)	(0.759)
Forced Bet for England to win	-1.198	-0.559	0.108	-0.411
	(3.868)	(0.471)	(5.069)	(0.627)
Forced Bet for the other to win	2.756	-0.311	0.723	-0.404
	(9.179)	(0.425)	(11.88)	(0.476)
Stage: Knockout	-4.859**	2.256*	-6.868**	2.138*
	(2.296)	(1.212)	(2.775)	(1.210)
Subjective risk profile	0.0484	0.106	0.0449	0.0824
	(0.0744)	(0.106)	(0.134)	(0.259)
Watch match: No	0.0676	-0.607*		
	(0.407)	(0.359)		
England as 1st favorite team	0.141	0.00329		
	(0.306)	(0.329)		
Gender: Female	0.141	0.271		
	(0.438)	(0.354)		
Nationality: Other	-0.00178	0.000101	-0.0830**	-0.0357
	(0.0175)	(0.0166)	(0.0374)	(0.0344)
Accumulated Payment	1.029	-0.0955	0.350	-0.136*
	(3.052)	(0.0886)	(3.948)	(0.0782)
Individual Payment	-0.317**	2.059**	-0.516***	1.379
	(0.141)	(0.877)	(0.182)	(1.145)
Maximum Potential Payment	7.489	-19.75*	18.88	-11.33
	(18.94)	(10.62)	(25.31)	(14.03)
Constant	-1.378	-0.517	-0.170	-0.383
	(3.865)	(0.424)	(5.051)	(0.520)
Observations	131	123	131	123
Number of groups	73	60	73	60
R^2	0.107	0.158	0.294	0.257

Note: Robust standard errors clustered at the individual level are in parentheses.
Dependent variable = level of enjoyment while watching the game, with 1 = not enjoyed at all, …, 7 = completely enjoyed watching the game. RE = random-effects model. FE = fixed-effects model. Time-invariant characteristics, e.g., England as 1st favorite team, gender, and nationality are naturally dropped in the FE regressions.
$^* p < 0.1, ^{**} p < 0.05, ^{***} p < 0.01$