

Letter: A Letter is an important research study of high quality and general interest to human behaviour researchers. The text is approximately 5,000 words, including the introductory paragraph, but excluding references and figure legends. Letters should have no more than 4 display items (figures and/or tables). As a guideline, Letters contain approximately 30 references (excluding those cited exclusively in Methods). This format begins with a title of, at most, 90 characters (including spaces), followed by an introductory paragraph (not abstract) of approximately 200 words, summarizing the background, rationale, main results (introduced by "Here we show" or some equivalent phrase) and implications of the study. This paragraph should be fully referenced and should be considered part of the main text, so that any subsequent introductory material avoids too much redundancy with the introductory paragraph. Letters are not divided by headings, except for the Methods heading.

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Reported cases of alcohol-related domestic abuse increase following the victory of the England national football team

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1 Introductory para (200 words approx)

Understanding the contextual factors that contribute to the occurrence of violence in family and intimate partner relationships is key for designing effective interventions to protect victims. Previous research has suggested that national football (soccer) tournaments increase the number of reported domestic abuse cases in England^{1,2}. While hypothesized to be a significant factor, previous quantitative research has not explored the role of alcohol in this relationship. Using crime data from the third largest police force in England, which serves a population of 2.9 million³, we find that the number of reported alcohol-related domestic abuse cases increases by 62% following an England victory in a national football tournament (World Cup, European Championship). This effect is driven by a 72% increase in male to female alcohol-related cases (and is absent from male to male, female to male, and female to female domestic abuse cases), and is not present in other types of criminal behaviours, such as public order offences, other violent, or property-related offences. A three-hour analysis reveals that the increase starts in the three-hour period of the match, the highest in the three hours after the victory, and gradually declines to its baseline level in the 24 hours following the match. Apart from the higher likelihood of alcohol-involvement, we do not find that domestic abuse cases occurring on England match days are characteristically different from cases occurring on non-match days.

2 Long intro

"If England gets beaten, so will she" - read the poster as part of the "The Not-So-Beautiful-Game" awareness campaign launched by the National Centre for Domestic Violence in the wake of the 2018 FIFA World Cup⁴. While a range of smaller, US studies have investigated the link between sports events and domestic abuse⁵, large-scale quantitative investigations of this relationship are relatively scarce. The most extensive study in the topic found that an unexpected loss of the local National Football League (NFL) team resulted in a 10% increase in the rate of reported male to female intimate partner violence (IPV)⁶.

In the UK, investigations of the relationship between sports and domestic abuse mostly focused on football (soccer). Football's history is inextricably linked to England, and is by far the most popular sport in the country⁷, with the 2018 World Cup attracting record number of viewers⁸. In 2012, a small, exploratory study investigated the effect of the 2010 World Cup on domestic abuse, using data from 33 out of 39 police forces in England². Using a control period from 2009, it found that rates of reported domestic abuse increased significantly when England lost or won (about 33-35%), but did not change on days then they draw. A more comprehensive investigation, using daily counts of domestic abuse in Lancashire from the 2002, 2006 and 2010 World Cup, found a 38% increase in rates of reported domestic violence when the England team lost, and a 26% increase when they won or drew¹. These estimates had been widely discussed in the British media before the 2018 World Cup, and the figures were also quoted on the posters in the Not-so Beautiful Game Campaign.

Domestic abuse is unlike other types of crimes, which warrants a careful interpretation of these estimates. First, domestic abuse is a vastly underreported crime (according to the Crime Survey of England and Wales, only 17% of all domestic abuse victims reported the abuse to the police between April, 2017 and March, 2018⁹). Second, while the umbrella term "domestic abuse" encompasses a wide range of behaviours differing in the partner dynamics involved and the overall context in which the behaviour occurs¹⁰, it is predominantly understood as a pattern of ongoing behaviour, involving a series of occurrences, rather than a one-off incident triggered by football¹¹. These studies nevertheless suggest that national football tournaments can create an environment for abusers that is conducive to domestic abuse. Exploring the characteristics of this relationship is instrumental in understanding the

pathways of the effect.

Why would sporting events, such as the World Cup precipitate domestic abuse in England? England's participation in national football tournaments are times of heightened patriotic emotions and a strengthened sense of "Englishness", fuelled by media narratives that often use war references and a "us vs. them" rhetoric to generate and represent an English national identity¹². Previous qualitative research has suggested that televised contact sports can serve as vehicle for the male sports fan to redefine and express his masculinity in a way that allows dominance, control, and can ultimately manifest in the perpetration of domestic abuse, given susceptibility to such behaviours¹³. We speculate that this observation is especially pertinent in the context of England's participation in national tournaments, owing to the popularity of the sport in the country, the associated media attention, and the particularly high levels of team identification stemming from a strengthened national identity.

What might be the exact role of alcohol in the relationship between football and domestic abuse? Qualitative investigations suggest a complex relationship between alcohol and domestic abuse. Alcohol has a strong association with domestic abuse, those with alcohol-problems are more likely to be perpetrators, and when alcohol is involved, there is evidence that the violence might result in more serious injuries¹⁴. However, it is generally understood that the role of alcohol should be considered in the context of a range of other factors (e.g., social, biological, psychological), and that alcohol is not the direct cause of domestic abuse^{14,15}. One explanation for the co-occurrence of domestic abuse and alcohol suggest that for some men, drinking and violence plays an instrumental role in the construction and expression of masculinity, especially when the problem of masculine deficiency is present (e.g., by unemployment)¹⁴.

In the US, the relationship between unexpected NFL losses and IPV did not depend on alcohol-involvement in the incident⁶. While England-based quantitative studies did not look at the role of alcohol in particular, given the strong association between drinking culture and football in England¹⁶, a relationship continuously reinforced by the marketing practices of the alcohol industry¹⁷, we hypothesize that alcohol plays a major role in the relationship between national football tournaments and domestic abuse.

To explore this hypothesis, we investigate whether the number of reported domestic abuse cases recorded by the West Midlands Police in England increase on days when the England national team plays in the World Cup or

the European Championship, and whether the effect, if any, is affected by alcohol-involvement. We also consider whether the result of the match alters the relationship, as previous research suggested that the effect is heightened when England loses¹. While our main aim is to complement existing literature on the link between football and domestic abuse by exploring the role alcohol plays in this relationship, our data does not allow us to claim any causal effects.

another short para on additional results

2.1 Data description

Our dataset comprises all crimes and specific types of incidents (such as domestic abuse) recorded by the West Midlands Police (the third largest police force in England¹⁸, serving an estimated 2.9 million people in 2017³) in the period between 2010 and 2018¹. The number of reported domestic abuse cases is the sum of crimes that have a domestic abuse marker, and all domestic abuse incidents. Crimes that have a domestic abuse marker indicate cases of domestic abuse that meet the criteria for notifiable offences in the UK, whereas domestic abuse incidents refer to cases that do not qualify as a crime. For each record in this dataset, we have information about the time and location of the incident or crime, and the gender and age of the offender and victim. We can also identify repeat offenders and victims by their unique person identifier. Domestic abuse cases comprise about 31% of all recorded crimes and incidents in the dataset, and about 23% of all domestic abuse cases are alcohol-related. Sentence about daily rate and how it compares to previous studies. There were three World Cups (2010, 2014, 2018) and two European Championships (2012, 2016) in the period covered by our dataset.

In the UK, the term "domestic abuse" refers to a wide range of behaviours, from physical and sexual violence to psychological, emotional, financial abuse, threatening behaviour, stalking and harassment either within a family or an intimate relationship⁹. Recent changes to the definition introduced the concept of coercive control, which recognises domestic abuse as a pattern of incidents, which can include any of the above behaviours. Previous research have focused on IPV, which the largest subcategory of domestic abuse.

¹The first half of 2017 has been excluded due to missing data.

	year	population	All_DA	Alcohol	inc_rate	alcinc_rate
1	2010	2711938.00	31110.00	4415.00	3.14	0.45
2	2011	2739733.00	27792.00	3814.00	2.78	0.38
3	2012	2761887.00	22399.00	4059.00	2.22	0.40
4	2013	2781753.00	32558.00	8183.00	3.21	0.81
5	2014	2805891.00	41020.00	10697.00	4.01	1.04
6	2015	2834490.00	44430.00	11551.00	4.29	1.12
7	2016	2870551.00	45375.00	11513.00	4.33	1.10
8	2017	2897303.00	17384.00	4308.00	1.64	0.41

3 Results

We first investigate whether the effect of football and alcohol on domestic abuse depends on the gender of the perpetrator and the victim. Previous qualitative research has suggested that the link between football and domestic abuse is a result of violent expression of masculinity, where heavy drinking is also often present¹³. If this was the case, we would expect football and alcohol to only affect reported numbers of male-perpetrated domestic abuse.

In the following regressions, each observation is a day in the period between 2010 and 2018, and the outcome variable is the number of cases reported to have happened on that day. We are interested in how the type of the day (England game resulting in either win, loss or draw for England; day after an England day; any other day during the tournament; or the rest of the days during the year) interact with alcohol-involvement.

The first column of Table 1 shows the result for all reported domestic abuse cases, and the remaining four columns show the result for different offender victim gender groups (e.g., "MF" denotes cases with male perpetrators and female victims). For all cases of domestic abuse, we see a 61%, 95% CI [22–113] increase in alcohol-related cases compared to non-match days, but not in non-alcohol related cases on days when England won. This increase is exclusively driven by Male to Female abuse (which comprises about 80% of all domestic abuse cases), where the increase is 71%, 95% CI [28–129], indicating that football and alcohol only makes males more violent, and only towards women.

These results show both similarities and differences with earlier findings. A similarity between our findings is that the increase is only present in male to female abuse cases, lending support to the hypothesis that masculinity con-

Table 1:

	<i>Dependent variable:</i>				
	All	MM	MF	FF	FM
	(1)	(2)	(3)	(4)	(5)
Tournament on	0.013 (0.032)	-0.021 (0.061)	0.021 (0.032)	0.043 (0.071)	-0.122* (0.053)
England win	-0.037 (0.097)	-0.046 (0.175)	-0.037 (0.099)	0.042 (0.199)	-0.141 (0.150)
England draw	0.047 (0.112)	0.083 (0.205)	0.035 (0.114)	0.063 (0.232)	0.057 (0.184)
England lost	-0.016 (0.095)	-0.063 (0.172)	-0.009 (0.097)	-0.039 (0.177)	0.089 (0.150)
After England	0.073 (0.059)	-0.025 (0.108)	0.075 (0.060)	0.172* (0.117)	0.019 (0.090)
Tournament on:Alcohol	-0.065 (0.046)	-0.147 (0.108)	-0.055 (0.048)	-0.080 (0.139)	-0.048 (0.087)
England win:Alcohol	0.612*** (0.144)	0.267 (0.293)	0.714*** (0.148)	0.226 (0.358)	0.458 (0.246)
England draw:Alcohol	-0.060 (0.175)	-0.305 (0.417)	0.010 (0.181)	-0.034 (0.627)	-0.500 (0.325)
England lost:Alcohol	0.227 (0.143)	0.293 (0.286)	0.195 (0.150)	0.297 (0.356)	0.032 (0.243)
After England:Alcohol	0.049 (0.089)	0.152 (0.183)	0.078 (0.092)	-0.197 (0.234)	-0.006 (0.162)
Observations	6,034	6,034	6,034	6,034	6,034

^a * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

^b Negative binomial regressions with year, month, day of week, Christmas, New Year's eve controls

struction coupled with alcohol consumption can be key in the link between sports-induced violence and domestic abuse. *maybe put it differently? not sure how much I should speculate* In the US study⁶, the effect of the match did not depend on alcohol-involvement in the abuse case, and the effect was driven by unexpected losses, whereas our results indicate that that it is a victory that results in the largest increase, and that alcohol plays an instrumental role in the relationship between football and domestic abuse. This discrepancy highlights that the effect on sports-induced emotional cues on domestic abuse are sensitive to the cultural context. Based on the pre-match betting odds, all England victories were expected in our dataset, suggesting that in the context of national England football team, it is living up to the hopes of the fans that has the largest emotional effect, and perhaps results in increased alcohol consumption¹⁹.

The largest England-based study found that an England loss results in the largest increase (38%) in domestic abuse, and a win or draw have a slightly smaller effect (26%)¹. We find a slightly different pattern (although the difference between the effect of an England win and loss on alcohol-related cases is not significant, see Table 3 in the Appendix), in that it is when England wins we find the largest increase in domestic abuse. Upon re-analysing their data by treating wins and draws as two separate variables and adding a month control (see Table 4 in the Appendix), we see a more similar effect to ours, where wins result in the largest increase (46%, 95% CI [29–65]), followed by losses (33%, 95% CI [11–59]), and no effect when England draws (possibly due to the fact that high-stake matches after the group-stage in the tournament cannot result in a draw). Taken together with our findings, these results suggest that the number of reported alcohol-related domestic abuse cases increase when England wins or loses, with wins having a larger effect.

difference between the emotional impact of a victory and a loss? why are victories so much more salient? but both are alcohol-related

Our unique dataset further allows us to explore whether England games have similar effects on other types of criminal behaviours. Specifically, we are interested in whether the effects of an England match day on alcohol-related cases are similar for public order offences (behaviours that cause offence to the general public), property-related crimes (including burglary, theft and robbery), or other violent crimes (excluding cases of domestic abuse). Of particular interest is the effect of football on non-domestic violent crimes, since it is possible that alcohol-fuelled violence that follows an England vic-

tory is not limited to family relationships.

Table 2 shows the result from four regressions, for the four types of criminal behaviours, including domestic abuse. Compared to non-match days, we see more non-alcohol related public order offence cases during the tournament, when England wins, and the day following an England game, potentially a sign of temporal spillover effects from the game. Perhaps surprisingly, we do not see strong differential effects for alcohol-related public order offences. Interestingly, non-domestic and non-alcohol related violent crimes only increase after an England game day, and not on the day of the game. More importantly, the effect of an England win on alcohol-related incidents is clearly unique to domestic abuse, indicating that whatever causes an increase in alcohol-related domestic abuse following an England victory, it does not extend to violence against non-family members.

Our data also allows us to explore the temporal dynamics of the increase in alcohol-related domestic abuse on England match days in more detail. To this end, we divided each day in our dataset into eight three-hour periods, the first one starting at 12am, and used these to identify specific time windows around the time of the match. The exact time of the matches vary considerably (the earliest starting at 1pm, and the latest at 11pm). We first identified the three-hour period of the day into which each match falls. If the start and end time of the match did not fall in the same three-hour period, we chose the three-hour period that covers the larger part of the match (e.g., a 2.5 hour long match starting at 7pm will be assigned to the 6-9pm period and not to the 9pm-12am period). Based on our previous results, we analyse the effect by the result of the match and alcohol-involvement in the case, by running two separate regressions for alcohol and non-alcohol related domestic abuse cases.

Figure 1 shows a plot of the coefficients from these regressions, which reveals a stark increase in alcohol-related domestic abuse, starting in the three hour period of the match, peaking in the three-hour period afterwards, and gradually declining to its original level in the twenty-four hours following the victory. We see a similar pattern, albeit much less pronounced, in alcohol-related domestic abuse on days when England lost. These results strongly suggest that the emotional effect of a win or loss drive the subsequent increase in alcohol-related domestic abuse.

Robustness. The increase in alcohol-related domestic abuse cases following an England victory is relatively robust to the exclusion of specific tournament years (2010, 2012, 2014, 2016), and only becomes non-significant

Table 2:

	<i>Dependent variable:</i>			
	Domestic Abuse	Public Order Offences	Property-related	Other Violence
	(1)	(2)	(3)	(4)
Tournament on	0.013 (0.032)	0.090** (0.038)	0.049* (0.028)	0.077* (0.042)
England win	-0.037 (0.097)	0.271** (0.102)	0.074 (0.082)	0.212 (0.127)
England draw	0.047 (0.112)	-0.084 (0.137)	0.113 (0.094)	0.071 (0.148)
England lost	-0.016 (0.095)	0.059 (0.109)	-0.057 (0.086)	0.080 (0.127)
After England	0.073 (0.059)	0.173** (0.066)	0.050 (0.052)	0.197** (0.078)
Tournament on:Alcohol	-0.065 (0.046)	-0.154* (0.094)	0.048 (0.071)	-0.091 (0.062)
England win:Alcohol	0.612*** (0.144)	-0.208 (0.267)	0.150 (0.221)	0.167 (0.191)
England draw:Alcohol	-0.060 (0.175)	0.419 (0.310)	-0.056 (0.264)	0.175 (0.226)
England lost:Alcohol	0.227 (0.143)	0.519* (0.231)	0.330 (0.230)	-0.017 (0.195)
After England:Alcohol	0.049 (0.089)	0.065 (0.155)	0.085 (0.140)	-0.136 (0.119)
Observations	6,034	6,034	6,034	6,034

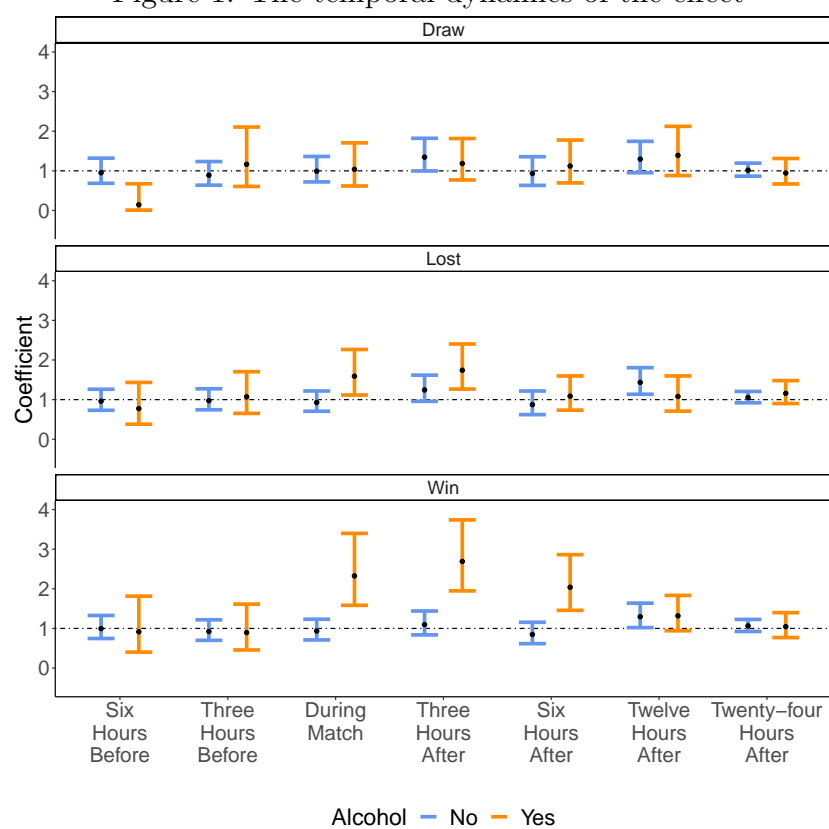
Note:

*p<0.1; **p<0.05; ***p<0.01

^a *p<0.1; **p<0.05; ***p<0.01

^b Negative binomial regressions with year, month, day of week, Christmas, New Year's eve controls

Figure 1: The temporal dynamics of the effect



if 2018 is excluded, because half of the England win days in our dataset comes from 2018 (see Table 6 in the Appendix).

Rugby. It has been suggested that the relationship between football and domestic abuse in England is not unique, and that popular sports, such as rugby have similar links with domestic abuse¹¹. Focusing on the Six Nations, a high-profile rugby tournament which takes place every year, we explored whether matches of the England national rugby union team have similar effects on the reported number of domestic abuse cases. The result in Table 7 in the Appendix shows that we found no comparable effects for England matches during the Six Nations tournament. This discrepancy between the effects of rugby and football is likely to reflect the difference between the popularity and the subsequent media coverage of the two sports.

Characteristics. To gain a deeper understanding of what drives this increase, we can analyse various characteristics of alcohol-related domestic abuse cases reported on England match days. The first column in Table 8 in the Appendix indicate that there is no difference in the increase between alcohol-related domestic abuse incidents in public or private locations on England win days. In addition, the second column shows that when England wins, we do not see a difference between the increase in alcohol-related domestic abuse depending on whether the victim-perpetrator pair had a previous domestic abuse case reported or did not. However, given the problem of underreporting, and the serial nature of domestic abuse, we cannot be sure if newly reported cases are indeed the first occasion of abusive behaviour for that particular victim-perpetrator pair. Finally, the third column shows that alcohol-related domestic abuse happening on England win days is not more likely to result in injuries than alcohol-related domestic abuse happening on nonmatch days.

For example, it could be argued that the increased number of reported domestic abuse cases might be the result of a higher likelihood of the incident happening in public - the tournaments take place in the summer, and many fans choose to congregate and watch the match in a pub - although it is not immediately clear why the effect would vary by the result of the match.

whether they are "newly reported" incidents

whether they are more violent

We first investigate whether the increase in reported domestic abuse cases

But what kind of abuse? useful framework is the typology by Johnson (2008). Can we differentiate SCV and intimate terrorism by the time of reporting? We'd expect loads of CSV in our dataset and not much intimate

terrorism (Johnson argues we should use ex partners dataset to investigate this due to the reporting bias in different types of domestic abuse). Intimate terrorism is characterised by harassment and stalking after separation. The big difference between SCV and IT is control.

3.1 Limitations

It is very likely that other factors also affect the strength of the effect underreporting, other factors like weather, campaigns may have increased willingness to report? but then why would it not be the same regardless of the result. issues about defining intimate partner violence, maybe increase because people celebrate outside? no. If he had enough data, we could test for the same thing Card & Lee have done.

4 Conclusion

context - increase in alcohol-related incidents when E wins is 62%, NYE - 37%, XMAS - 76%, Friday - 28%, Saturday - 102%, Sunday - 94%

main findings:

60% increase in alcohol-related da on days when E won

that comes from male to female

DA is different from other types of crimes

time course

miscell:

1) sensitivity of the result

2) comparison with rugby

3) no effect of deprivation

4) sexual, vulnerable adult?

5) NOT more violent on england win days (taking into account that alcohol related incidents are more likely to be serious)/ no evidence for fewer control types/ no evidence that one-off cases are more likely to occur on E win days/ they are also not more likely to be reported sooner/later

6) Alcohol transition: equally from previously alcohol and non-alcohol related

7) On E wins days, alcohol related case increase comes from both new and old incidents

8) On E win days, incidents are not more/less likely to be public-private

- 9) Considering repeat incidents reoccurring as alcohol-related incidents on E win days, they are not more likely to be non or alcohol-related previously
- 10) Considering repeat incidents reoccurring on E win days, they are not more/less likely to have a long/short time elapsed since last/til next

5 Appendix

Table 3: Contrasts by alcohol and day type

contrast	estimate	SE	df	z.ratio	p.value
Alcohol = No					
Nonmatch day - Tournament on	-0.0206	0.0324	Inf	-0.635	0.9884
Nonmatch day - England win	0.0382	0.0994	Inf	0.384	0.9989
Nonmatch day - England draw	-0.0348	0.1139	Inf	-0.305	0.9996
Nonmatch day - England lost	0.0087	0.0970	Inf	0.089	1.0000
Nonmatch day - After England	-0.0726	0.0601	Inf	-1.209	0.8328
Tournament on - England win	0.0587	0.1029	Inf	0.571	0.9929
Tournament on - England draw	-0.0142	0.1166	Inf	-0.122	1.0000
Tournament on - England lost	0.0292	0.1005	Inf	0.291	0.9997
Tournament on - After England	-0.0521	0.0655	Inf	-0.795	0.9685
England win - England draw	-0.0729	0.1497	Inf	-0.487	0.9966
England win - England lost	-0.0295	0.1374	Inf	-0.215	0.9999
England win - After England	-0.1108	0.1142	Inf	-0.970	0.9275
England draw - England lost	0.0434	0.1481	Inf	0.293	0.9997
England draw - After England	-0.0379	0.1268	Inf	-0.299	0.9997
England lost - After England	-0.0813	0.1122	Inf	-0.724	0.9790
Alcohol = Yes					
Nonmatch day - Tournament on	0.0359	0.0402	Inf	0.892	0.9485
Nonmatch day - England win	-0.5009	0.1117	Inf	-4.485	0.0001
Nonmatch day - England draw	-0.0443	0.1428	Inf	-0.310	0.9996
Nonmatch day - England lost	-0.1697	0.1155	Inf	-1.470	0.6838
Nonmatch day - After England	-0.1482	0.0729	Inf	-2.034	0.3230
Tournament on - England win	-0.5369	0.1172	Inf	-4.581	0.0001
Tournament on - England draw	-0.0802	0.1468	Inf	-0.546	0.9942
Tournament on - England lost	-0.2056	0.1207	Inf	-1.704	0.5292
Tournament on - After England	-0.1841	0.0808	Inf	-2.278	0.2030
England win - England draw	0.4567	0.1800	Inf	2.537	0.1134
England win - England lost	0.3313	0.1592	Inf	2.080	0.2976
England win - After England	0.3528	0.1316	Inf	2.680	0.0791
England draw - England lost	-0.1254	0.1823	Inf	-0.688	0.9833
England draw - After England	-0.1039	0.1587	Inf	-0.655	0.9867
England lost - After England	0.0215	0.1348	Inf	0.159	1.0000

Table 4: Replication of Kirby et al. (2014)

	Original Model	Win/Draw as separate	Model 2 + month control
	(1)	(2)	(3)
England windraw	0.256*** (0.055)		
England win		0.452*** (0.064)	0.458*** (0.063)
England draw		0.032 (0.073)	0.031 (0.073)
England lost	0.382*** (0.094)	0.388*** (0.085)	0.326*** (0.092)
After England	0.111** (0.051)	0.113** (0.047)	0.101** (0.048)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 5: Robustness of the result

	<i>Dependent variable:</i>		
	Domestic_abuse	Sexual_Abuse	Vulnerable_Abuse
	Domestic Abuse	Child/Vulnerable Adult Abuse	Sexual abuse
	(1)	(2)	(3)
Type.of.dayTournament on	0.013 (0.032)	0.150 (0.198)	0.144 (0.141)
Type.of.dayEngland win	-0.037 (0.097)	0.489 (0.521)	-0.292 (0.477)
Type.of.dayEngland draw	0.047 (0.112)	-0.523 (0.871)	-0.199 (0.536)
Type.of.dayEngland lost	-0.016 (0.095)	-0.093 (0.580)	-0.419 (0.527)
Type.of.dayAfter England	0.073 (0.059)	-0.122 (0.371)	0.222 (0.238)
AlcoholYes	-0.721*** (0.008)	-0.872*** (0.076)	-0.819*** (0.056)
Type.of.dayTournament on:AlcoholYes	-0.065 (0.046)	-0.172 (0.462)	-0.124 (0.322)
Type.of.dayEngland win:AlcoholYes	0.612*** (0.144)	-0.082 (1.198)	2.345 (0.761)
Type.of.dayEngland draw:AlcoholYes	-0.060 (0.175)	-1.000 (16,798.680)	0.388 (1.144)
Type.of.dayEngland lost:AlcoholYes	0.227 (0.143)	3.608* (0.890)	5.847*** (0.706)
Type.of.dayAfter England:AlcoholYes	0.049 (0.089)	1.981* (0.621)	-0.520 (0.750)
Observations	6,034	6,034	6,034
Log Likelihood	-23,003.430	-3,984.515	-4,634.706
θ	16.979*** (0.470)	0.978*** (0.074)	6.601*** (1.627)
Akaike Inf. Crit.	46,084.860	8,047.029	9,347.412

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 6: Robustness of the result

	<i>Dependent variable:</i>					
	All years	2018 excluded	2016 excluded	2014 excluded	2012 excluded	2010 excluded
	(1)	(2)	(3)	(4)	(5)	(6)
Tournament on	0.013 (0.032)	0.004 (0.033)	0.039 (0.037)	0.047 (0.038)	0.034 (0.034)	-0.053 (0.035)
England win	-0.037 (0.097)	-0.009 (0.145)	-0.054 (0.105)	-0.047 (0.098)	0.017 (0.108)	-0.071 (0.100)
England draw	0.047 (0.112)	0.033 (0.114)	0.149 (0.139)	0.049 (0.123)	-0.018 (0.120)	0.043 (0.132)
England lost	-0.016 (0.095)	-0.047 (0.124)	-0.013 (0.103)	0.004 (0.110)	0.008 (0.099)	-0.040 (0.098)
After England	0.073 (0.059)	0.055 (0.074)	0.078 (0.066)	0.083 (0.064)	0.088 (0.063)	0.055 (0.063)
Tournament on:Alcohol	-0.065 (0.046)	-0.055 (0.047)	-0.096* (0.056)	-0.167*** (0.057)	-0.091* (0.050)	0.068 (0.051)
England win:Alcohol	0.612*** (0.144)	0.434 (0.221)	0.695*** (0.156)	0.663*** (0.144)	0.612*** (0.158)	0.551*** (0.149)
England draw:Alcohol	-0.060 (0.175)	-0.051 (0.177)	-0.312 (0.232)	-0.050 (0.193)	0.064 (0.184)	0.004 (0.204)
England lost:Alcohol	0.227 (0.143)	0.188 (0.188)	0.336* (0.154)	0.228 (0.166)	0.188 (0.150)	0.168 (0.149)
After England:Alcohol	0.049 (0.089)	-0.073 (0.114)	0.081 (0.100)	0.041 (0.097)	0.072 (0.094)	0.082 (0.094)
Observations	6,034	5,416	5,302	5,304	5,302	5,304

Table 7: Football vs Rugby

	N			
	Football Alcohol	Football No Alcohol	Rugby Alcohol	Rugby No Alcohol
	(1)	(2)	(3)	(4)
Tournament on	-0.062* (0.023)	0.017 (0.037)	-0.041 (0.021)	0.005 (0.034)
England win	0.586*** (0.068)	-0.038 (0.096)	0.050 (0.038)	0.0005 (0.057)
England draw	-0.004 (0.078)	0.043 (0.126)		
England lost	0.147 (0.066)	0.045 (0.097)	-0.023 (0.059)	0.057 (0.088)
After England	0.122* (0.041)	0.079* (0.064)	-0.031 (0.034)	-0.012 (0.053)

Table 8: Characteristics of alcohol-related domestic abuse cases

	Public location (Yes vs. No)	Newly reported (Yes vs. No)	Injury (Yes vs. No)
	(1)	(2)	(3)
Draw	−0.089 (0.145)	−0.028 (0.217)	−0.101 (0.155)
Lost	−0.022 (0.120)	−0.124 (0.170)	0.059 (0.126)
Win	0.368*** (0.119)	0.225 (0.165)	0.327** (0.127)
Nonmatch	−0.090 (0.066)	−0.154* (0.092)	−0.110* (0.070)
Location_public	−0.838*** (0.136)		
Newly_reported		0.372*** (0.122)	
Serious_injury			−0.666*** (0.118)
Draw:Location_public	−0.146 (0.327)		
Lost:Location_public	0.299 (0.239)		
Win:Location_public	0.201 (0.234)		
Nonmatch:Location_public	−0.204* (0.136)		
Draw:Newly_reported		−0.117 (0.297)	
Lost:Newly_reported		0.153 (0.228)	
Win:Newly_reported		0.078 (0.223)	
Nonmatch:Newly_reported		0.087 (0.123)	
Draw:Serious			−0.018 (0.271)
Lost:Serious			−0.120 (0.221)
Win:Serious			0.224 (0.209)
Nonmatch:Serious			−0.033 (0.118)
Observations	6,034	5,304	6,034
<i>Note:</i>		*p<0.1; **p<0.05; ***p<0.01	

References

1. Kirby, S., Francis, B. & O’Flaherty, R. Can the FIFA World Cup Football (Soccer) Tournament Be Associated with an Increase in Domestic Abuse? *Journal of Research in Crime and Delinquency* **51**, 259–276. ISSN: 0022-4278 (May 2014).
2. Brimicombe, A. & Cafe, R. Beware, Win or Lose: Domestic Violence and the World Cup. *Significance* **9**, 32–35. ISSN: 17409705 (Oct. 2012).
3. Office for National Statistics. *Labour Market Profile - Nomis - Official Labour Market Statistics* <https://www.nomisweb.co.uk/reports/lmp/1a/1967128614/report.aspx%7B%5C%7Dtabrespop> (2019).
4. *The Not-So-Beautiful Game* 2018. <https://www.ncdv.org.uk/the-not-so-beautiful-game> (2019).
5. Williams, D. J. & Neville, F. G. in *Overcoming Domestic Violence* 157–241 (Nova Science Publishers, New York, 2014).
6. Card, D. & Dahl, G. B. Family Violence and Football: The Effect of Unexpected Emotional Cues on Violent Behavior. *The Quarterly Journal of Economics* **126**, 103–143 (Feb. 2011).
7. Parry, K. D., Jones, I. & Wann, D. L. An Examination of Sport Fandom in the United Kingdom: A Comparative Analysis of Fan Behaviors, Socialization Processes, and Team Identification. *Journal of Sport Behavior* **37**, 251–267. ISSN: 10126902 (2014).
8. BBC Sport. *World Cup 2018: Record-breaking online & viewing figures for BBC* July 2018. <https://www.bbc.co.uk/sport/football/44850988> (2019).
9. Office for National Statistics. *Domestic abuse in England and Wales: year ending March 2018* 2018.
10. Kelly, J. B. & Johnson, M. P. Differentiation among Types of Intimate Partner Violence: Research Update and Implications for Interventions. *Family Court Review* **46**, 476–499. ISSN: 1531-2445 (2008).
11. Brooks-Hay, O. & Lombard, N. ‘Home game’: domestic abuse and football. *Journal of Gender-Based Violence* **2**, 93–108. ISSN: 2398-6808 (Feb. 2018).

12. Vincent, J. & Harris, J. 'They think it's all Dover!' Popular newspaper narratives and images about the English football team and (re)presentations of national identity during Euro 2012. *Soccer and Society* **15**, 222–240. ISSN: 14660970 (2014).
13. Sabo, D., Gray, P. M. & Moore, L. A. in *Masculinities, Gender Relations, and Sport* 127–146 (SAGE Publications, Inc., Thousand Oaks, 2000).
14. Peralta, R. L., Tuttle, L. A. & Steele, J. L. At the Intersection of Interpersonal Violence, Masculinity, and Alcohol Use: The Experiences of Heterosexual Male Perpetrators of Intimate Partner Violence. *Violence Against Women* **16**, 387–409. ISSN: 1077-8012 (Apr. 2010).
15. Javaid, A. The role of alcohol in intimate partner violence: Causal behaviour or excusing behaviour? *British Journal of Community Justice* **13**, 75–92. ISSN: 14750279 (2015).
16. Dixon, K. The football fan and the pub: An enduring relationship. *International Review for the Sociology of Sport* **49**, 382–399. ISSN: 1012-6902 (June 2014).
17. Gornall, J. World Cup 2014: festival of football or alcohol? *BMJ (Clinical research ed.)* **348**, g3772. ISSN: 1756-1833 (June 2014).
18. Home Office. *Police funding for England and Wales 2015 to 2019* tech. rep. (Home Office, 2018), 11–12.
19. Davies, G. *England's unexpected World Cup progression behind record-high alcohol poisoning cases, NHS says* 2018. <https://www.telegraph.co.uk/news/2018/12/30/englands-unexpected-world-cup-progression-behind-record-high/> (2019).