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.

Letters include received/accepted dates and may be accompanied by supplementary information. Letters are peer reviewed.

Neil crappy abstract: When England wins or loses a football match, we use WMP data to show that there is a 60% spike in domestic abuse cases. We only see the patterns for wins and losses not draws, and only see the increase for domestic abuse cases involving alcohol. Indeed the spike is unique to male on female intimate partner domestic abuse, and we don't see it for other types of incident (e.g., antisocial behaviour).

1 Introductory para (200 words approx)

Understanding the 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, serving a population of 2.9 million[3], 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, 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, or hate crimes. A three-hour analysis reveals that the increase starts in the three-hour period of the match, peaks in the three hours after the victory, and gradually declines to its baseline level in the 24 hours following the match. The abuse that occurs is not characteristically different from domestic abuse cases occurring on non-match days, apart from the stronger association with alcohol. Whatever the football does, it only does it to men, only when they are drunk, and only affects their behaviour towards the females they know.

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 Cup[4]. While the link betwen sport events and domestic abuse has been the focus of a number of smaller studies[5], 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) in the US[6].

In England, most studies have focused on the link between football (soccer) and domestic abuse. Football's history is inextricably linked to England, and is by far the most popular sport in the country[7], with the 2018 World Cup attracting record number of viewers[8]. 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 England[2]. Using a control period from 2009, the study 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 the number of reported domestic violence cases when the England team lost, and a 26% increase when they won or drew[1]. 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. While domestic abuse is predominantly understood as a pattern of ongoing behaviour, involving a series of occurrences,

rather than a one-off incident triggered by football[9], these studies, and other qualitative investigations[10] nevertheless suggest that national football tournaments can create an environment for abusers that is conducive to domestic abuse.

Why would national football tournaments, such as the World Cup or the European Championship precipitate domestic abuse? England's participation in these 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 identity[11]. Previous qualtitatve 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 behaviours[10,12]. 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 heightened sense of national consciousness.

Qualitative investigations suggest that alcohol can be a significant factor in the link between football 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 injuries[13]. However, it is generally understood that the role of alcohol should be considered in the context of a range of social, biological and pyschological factors, and that alcohol is never the direct cause of domestic abuse[13,14]. 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)[13].

In the US, the relationship between unexpected NFL losses and IPV did not depend on alcohol-involvement in the incident[6]. 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 England[15], a relationship continuously reinforced by the marketing practices of the alcohol industry[16], we hypothesize that alcohol might play an important 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 Midland Police in England be-

tween 2010 and 2018 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 loses[1]. Our unique dataset also allows us to investigate various aspects of the link between football tournaments and domestic abuse.

2.1 Data description

Our dataset comprises all crimes and specific types of incidents (such as domestic abuse) that have been reported to the West Midlands Police (the third largest police force in England[17], serving an estimated 2.9 million people in 2017[3]) in the period between 2010 and 2018[1]. 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. Both tournaments take place in the months of June and July.

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 relationship[18]. 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 mostly focused on IPV, which the largest subcategory of domestic abuse.

Card & Dahl find a 10% increase in male to female violence, in their dataset, daily prevalence of DA is 1.28 per 100,000 population,10% increase is 0.128 increase in daily rate, our rates are quite variable (also something happens in 2012), but the average is 0.70 (excluding 2017 and 2018), 60% increase is 0.42 increase in daily rate

this table is just for illustration

Our dataset contains all cases of domestic abuse reported to the police, but the vast majority of all domestic abuse incidents in fact never get reported (according to the Crime Survey of England and Wales, only 17% of all domestic abuse victims reported the abuse to the police between April,

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

	year	Alcohol	No_days	DA_cases	Population	Rate
1	2010	No	365	23332.00	2711938.00	2.36
2	2010	Yes	365	3978.00	2711938.00	0.40
3	2011	No	365	20887.00	2739733.00	2.09
4	2011	Yes	365	3490.00	2739733.00	0.35
5	2012	No	366	15789.00	2761887.00	1.56
6	2012	Yes	366	3611.00	2761887.00	0.36
7	2013	No	365	22422.00	2781753.00	2.21
8	2013	Yes	365	7732.00	2781753.00	0.76
9	2014	No	365	27758.00	2805891.00	2.71
10	2014	Yes	365	10005.00	2805891.00	0.98
11	2015	No	365	30225.00	2834490.00	2.92
12	2015	Yes	365	10931.00	2834490.00	1.06
13	2016	No	366	31499.00	2870551.00	3.00
14	2016	Yes	366	11005.00	2870551.00	1.05
15	2017	No	365	12909.00	2897303.00	1.22
16	2017	Yes	365	4232.00	2897303.00	0.40
17	2018	No	310	28479.00		
18	2018	Yes	310	9109.00		

2017 and March, 2018[18]). This substantial reporting bias, and its potential correlation with other contextual factors warrants a careful interpretation of the estimates from any quantitative study, and highlights the importance of utilising a mixed methods approach to explore the factors contributing to domestic abuse.

3 Results

In the following regressions, each observation is a day in the period between 2010 and 2018, and the outcome variable is the number of domestic abuse cases reported to have been perpetrated on that day. To investigate whether national football tournaments affect the number of reported abuse cases, we classify each day in our dataset as either a day on which England won (England win), lost (England lost) or drew (England draw), a day after an England match day (After England), any other day during the tournament (Tournament on), or any other day during the rest of the year (Nonmatch day).

We first explore whether adding this day classification variable to a baseline model results in an improved model fit. The results in Table 1 show that adding our day classification variable to a baseline model with alcohol and a set of control variables reduces AIC (see column 1 and 2), and that an England victory increases the number of reported abuse cases by 20%, 95% CI [5–38]. Including a interaction term between alcohol and type of day (see column 3) further improves the model, and indicates a 61%, 95% CI [24–110] increase in alcohol-related domestic abuse incidents on days when the England national team wins.

We can also investigate whether the effect varies by 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 present[12]. If this was the case, we would expect football and alcohol to only affect reported numbers of male-perpetrated domestic abuse.

The first column of Table 2 shows the result for different offender-victim gender groups. We see that the increase is driven by Male to Female abuse (which comprises about 80% of all domestic abuse cases in our data), where the increase is 71%, 95% CI [30–125]. These results suggest that football and alcohol only makes men more violent, and only towards women.

These findings show both similarities and differences with results from previous research. A similarity is that the increase is only present in male to female abuse cases, lending support to the hypothesis that masculinity construction coupled with alcohol consumption can be key in the link between sports-induced violence and domestic abuse. However, in the US study[6], the effect of the match did not depend on alcohol-involvement in the abuse case, and the increase was driven by unexpected losses, whereas our findings

Table 1: Number of reported domestic abuse incidents by alcohol involvement and type of day

	Dependent variable:		
	N		
	(1)	(2)	(3)
AlcoholYes	−0.719***	−0.719***	−0.719***
	(0.007)	(0.007)	(0.008)
Type.of.dayTournament on		−0.012	0.014
		(0.024)	(0.030)
Type.of.dayEngland win		0.203***	−0.038
		(0.069)	(0.091)
Type.of.dayEngland draw		0.023	0.046
		(0.082)	(0.104)
Type.of.dayEngland lost		0.076	−0.014
		(0.068)	(0.089)
Type.of.dayAfter England		0.096**	0.073
		(0.043)	(0.055)
AlcoholYes:Type.of.dayTournament on			−0.064
			(0.044)
AlcoholYes:Type.of.dayEngland win			0.610***
			(0.135)
AlcoholYes:Type.of.dayEngland draw			−0.056
			(0.165)
AlcoholYes:Type.of.dayEngland lost			0.223
			(0.135)
AlcoholYes:Type.of.dayAfter England			0.051
			(0.084)
Observations	6,034	6,034	6,034
Log Likelihood	−22,740.750	−22,734.280	−22,725.560
θ	20.045*** (0.590)	20.102*** (0.592)	20.200*** (0.596)
Akaike Inf. Crit.	45,539.500	45,536.560	45,529.120

Note: *p<0.1; **p<0.05; ***p<0.01

[a] **p<0.1; **p<0.05; ***p<0.01*

[b] *Estimates are from a series of negative binomial regressions (based on tests of overdispersion) with year, month, day of week, Christmas, New Year's eve controls; standard errors in parentheses*

Table 2: Number of reported domestic abuse incidents by type of day, alcohol involvement, and gender of perpetrator and victim

	Dependent variable: Number of reported domestic abuse cases			
	Male to Male	Male to Female	Female to Female	Female to Male
	(1)	(2)	(3)	(4)
Tournament on	−0.020	0.021	0.043	−0.121*
	(0.061)	(0.030)	(0.071)	(0.051)
England win	−0.048	−0.037	0.040	−0.143
	(0.173)	(0.093)	(0.196)	(0.145)
England draw	0.082	0.034	0.059	0.057
	(0.202)	(0.106)	(0.229)	(0.179)
England lost	−0.064	−0.006	−0.041	0.088
	(0.170)	(0.090)	(0.174)	(0.145)
After England	−0.024	0.076	0.172*	0.019
	(0.107)	(0.056)	(0.115)	(0.087)
Alcohol	−0.610***	−0.731***	−0.609***	−0.728***
	(0.018)	(0.008)	(0.023)	(0.015)
Tournament on:Alcohol	−0.147	−0.053	−0.080	−0.048
	(0.108)	(0.046)	(0.139)	(0.086)
England win:Alcohol	0.268	0.711***	0.230	0.460
	(0.290)	(0.139)	(0.355)	(0.240)
England draw:Alcohol	−0.303	0.014	−0.030	−0.500
	(0.415)	(0.171)	(0.625)	(0.319)
England lost:Alcohol	0.295	0.191	0.298	0.032
	(0.283)	(0.141)	(0.353)	(0.237)
After England:Alcohol	0.151	0.080	−0.197	−0.005
	(0.181)	(0.087)	(0.233)	(0.159)
Observations	6,034	6,034	6,034	6,034
Log Likelihood	−10,858.990	−21,564.730	−9,369.513	−12,700.450
θ	35.710*** (7.836)	20.571*** (0.659)	36.989*** (11.106)	26.747*** (3.187)
Akaike Inf. Crit.	21,795.970	43,207.460	18,817.030	25,478.900

Note: *p<0.1; **p<0.05; ***p<0.01

[a] **p<0.1; **p<0.05; ***p<0.01*

[b] *Estimates are from a series of negative binomial regressions (based on tests of overdispersion) with year, month, day of week, Christmas, New Year's eve controls; standard errors in parentheses*

suggest 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 England's participation in national football tournaments, it is living up to the hopes of the fans that has the largest emotional effect, and perhaps results in increased alcohol consumption[19]. Previous research has demonstrated how the vicarious experience of watching their team play can increase supporter's testosterone and cortisol levels, even when they expect their team to win, which has been suggested to be an adaptive response to the perceived threat to one's social identity[20].

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 4 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 5 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 link between football and domestic abuse is mostly driven by victories, and to a lesser extent by losses, and that alcohol plays a key role in this relationship.

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 how an England match day affects the number of reported property-related crimes (including burglary, theft and robbery), public order offences (behaviours that cause offence to the general public), hate crimes (hate incidents and any other racially or religiously aggravate crime), and 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 victory is not limited to family relationships.

Table 3 shows the result from four regressions, one for each type of criminal behaviour.

every type of non-alc cases increase, after england also increases apart from property-related, non-alc POO increases when E wins

More importantly, the effect of an England win on alcohol-related incidents is 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.

Weird results from subgroup regressions in Table 6 in Appendix. It looks like for other violence there's also a slight effect on alcohol-related incidents when E wins, but because there is also slight increase in non-alc related ones the interaction doesn't come out significant.

Next, we 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 on days of an England victory, 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. It also highlights the possibility that the asymmetric effect of England victories might stem from prolonged post-match celebrations coupled with increased

Table 3: Number of reported cases for each crime type, by type of day, and alcohol involvement

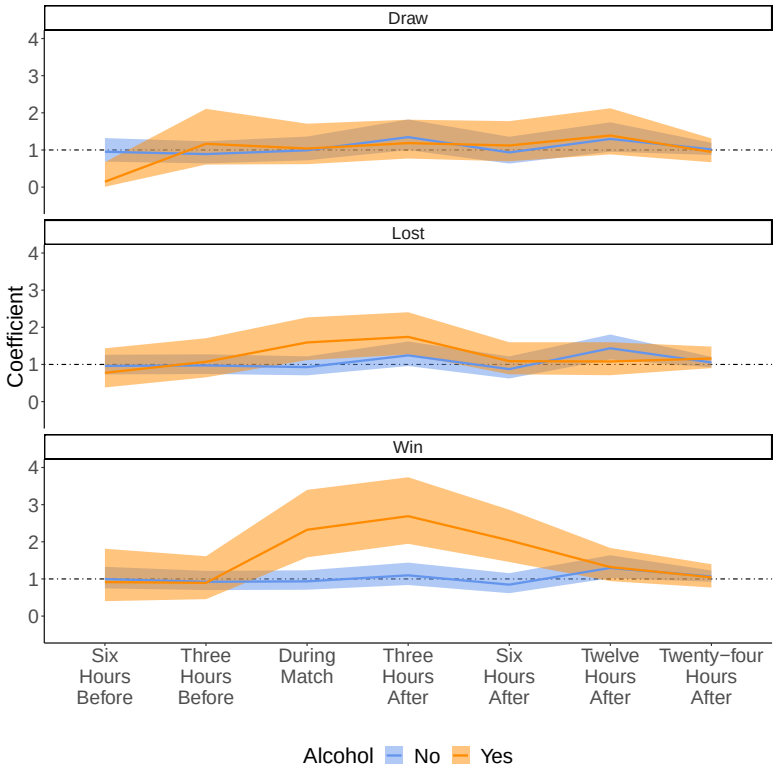
	Dependent variable:			
	Property Property-related	Poo Public Order Offences	Hate Hate incidents	Otherv Other violence
	(1)	(2)	(3)	(4)
Tournament on	0.053*	0.089**	0.147***	0.071*
	(0.028)	(0.037)	(0.047)	(0.040)
England win	0.063	0.269**	0.101	0.203
	(0.081)	(0.100)	(0.138)	(0.120)
England draw	0.114	−0.077	−0.059	0.060
	(0.093)	(0.133)	(0.171)	(0.141)
England lost	−0.064	0.079	0.017	0.072
	(0.085)	(0.105)	(0.141)	(0.120)
After England	0.056	0.180***	0.161*	0.188**
	(0.051)	(0.064)	(0.085)	(0.074)
Alcohol	−0.948***	−0.886***	−0.885***	−0.797***
	(0.013)	(0.016)	(0.022)	(0.010)
Tournament on:Alcohol	0.032	−0.160*	−0.261**	−0.084
	(0.071)	(0.091)	(0.126)	(0.060)
England win:Alcohol	0.158	−0.182	0.082	0.149
	(0.218)	(0.255)	(0.353)	(0.183)
England draw:Alcohol	−0.088	0.414	0.237	0.207
	(0.264)	(0.300)	(0.423)	(0.217)
England lost:Alcohol	0.335	0.430	−0.072	−0.008
	(0.226)	(0.226)	(0.388)	(0.187)
After England:Alcohol	0.052	0.018	0.260	−0.126
	(0.139)	(0.152)	(0.199)	(0.115)
Observations	6,034	6,034	6,034	6,034
Log Likelihood	−17,904.550	−14,109.810	−11,555.290	−22,021.630
θ	30.220*** (1.331)	26.908*** (1.973)	21.468*** (2.116)	10.064*** (0.274
Akaike Inf. Crit.	35,887.100	28,297.610	23,188.580	44,121.260

Note: *p<0.1; **p<0.05; ***p<0.0

[a] **p<0.1; **p<0.05; ***p<0.01*

[b] *Estimates are from a series of negative binomial regressions (based on tests of overdispersion) with yea month, day of week, Christmas, New Year's eve controls; standard errors in parentheses*

Figure 1: The temporal dynamics of the effect



Note: Estimates are from two separate negative binomial regressions (based on tests of overdispersion) with year, month, day of week, three-hour period of day, Christmas, New Year's eve controls

alcohol consumption.

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, see Table 7 in the Appendix).

Other crimes that are about power. We also investigated whether the number of other reported crimes that have the element of dominance put it better, such as sexual offences and other abuse cases (child abuse and vulnerable adult abuse) are affected by football. Table 8 in the Appendix shows the results, indicating no effect (similar coefficients but ses are huge). sentence about sexual offences being even more underreported than DA?

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 abuse[9]. 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.

Table 10 in the appendix shows that while non-alcohol related domestic abuse decreases on days when Englands wins in the six nations, alcohol-related abuse increases. This pattern is absent when we run the regressions on the subset of alcohol-related incidents.

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.

Deprivation. See Table **??**Very mixed results.

Alcohol transition.

Days elapsed. Til next, since last, hours til report (all on restricted sample).

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 initimate 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%

5 Appendix

Table 4: Contrasts by alcohol and day type

contrast	estimate	SE	df	z.ratio	p.value
Alcohol = No					
Nonmatch day - Tournament on	-0.0140	0.0297	Inf	-0.471	0.9971
Nonmatch day - England win	0.0386	0.0909	Inf	0.425	0.9982
Nonmatch day - England draw	-0.0445	0.1043	Inf	-0.426	0.9982
Nonmatch day - England lost	0.0143	0.0888	Inf	0.161	1.0000
Nonmatch day - After England	-0.0707	0.0550	Inf	-1.285	0.7937
Tournament on - England win	0.0526	0.0942	Inf	0.559	0.9936
Tournament on - England draw	-0.0305	0.1068	Inf	-0.285	0.9997
Tournament on - England lost	0.0283	0.0920	Inf	0.307	0.9996
Tournament on - After England	-0.0567	0.0600	Inf	-0.945	0.9348
England win - England draw	-0.0831	0.1370	Inf	-0.606	0.9906
England win - England lost	-0.0243	0.1257	Inf	-0.194	1.0000
England win - After England	-0.1093	0.1046	Inf	-1.045	0.9025
England draw - England lost	0.0587	0.1356	Inf	0.433	0.9981
England draw - After England	-0.0262	0.1162	Inf	-0.226	0.9999
England lost - After England	-0.0850	0.1028	Inf	-0.827	0.9627
Alcohol = Yes					
Nonmatch day - Tournament on	0.0524	0.0364	Inf	1.441	0.7016
Nonmatch day - England win	-0.4371	0.1019	Inf	-4.291	0.0003
Nonmatch day - England draw	0.0133	0.1303	Inf	0.102	1.0000
Nonmatch day - England lost	-0.1869	0.1034	Inf	-1.808	0.4607
Nonmatch day - After England	-0.1197	0.0659	Inf	-1.817	0.4548
Tournament on - England win	-0.4895	0.1068	Inf	-4.584	0.0001
Tournament on - England draw	-0.0391	0.1339	Inf	-0.292	0.9997
Tournament on - England lost	-0.2393	0.1081	Inf	-2.213	0.2315
Tournament on - After England	-0.1721	0.0731	Inf	-2.356	0.1721
England win - England draw	0.4504	0.1642	Inf	2.743	0.0671
England win - England lost	0.2503	0.1439	Inf	1.739	0.5055
England win - After England	0.3174	0.1198	Inf	2.651	0.0855
England draw - England lost	-0.2002	0.1651	Inf	-1.212	0.8310
England draw - After England	-0.1330	0.1445	Inf	-0.920	0.9415
England lost - After England	0.0672	0.1211	Inf	0.555	0.9938

[a] *Results are from a negative binomial regression with all domestic abuse cases (see the first column of Table 2)*

[b] *Results are averaged over the levels of: year, Day of week, month, XMAS, NYE; Results are given on the log (not the response) scale*

Table 5: Replication of Kirby et al. (2014) and alternative specifications

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

[a] *$^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$*

[b] *Estimates are from a series of negative binomial regressions with year and day of week controls; standard errors in parentheses*

Table 6: Subgroup analysis

	Dependent variable:							
	Property		Poo		Hate		Otherv	
	Alc	NAlc	Alc	NAlc	Alc	NAlc	Alc	NAlc
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Tournament on	0.183**	0.042	−0.118	0.096**	−0.099	0.138***	0.024	0.034
	(0.076)	(0.026)	(0.098)	(0.036)	(0.142)	(0.046)	(0.048)	(0.026)
England win	0.324	0.052	0.268	0.235**	0.430	0.073	0.656***	0.095
	(0.207)	(0.074)	(0.249)	(0.094)	(0.361)	(0.134)	(0.123)	(0.073)
England draw	0.167	0.100	0.306	−0.065	0.335	−0.065	0.409**	0.035
	(0.251)	(0.085)	(0.286)	(0.127)	(0.426)	(0.166)	(0.148)	(0.088)
England lost	0.096	−0.042	0.582**	0.075	−0.016	0.011	0.130	0.089
	(0.213)	(0.078)	(0.216)	(0.100)	(0.394)	(0.137)	(0.127)	(0.074)
After England	0.151	0.052	0.304*	0.161**	0.655**	0.141	0.167*	0.108**
	(0.136)	(0.047)	(0.153)	(0.061)	(0.213)	(0.083)	(0.082)	(0.046)
Observations	3,017	3,017	3,017	3,017	3,017	3,017	3,017	3,017

Note: *p<0.1; **p<0.05; ***p<0.01

[a] **p<0.1; **p<0.05; ***p<0.01*

[b] *Estimates are from a series of negative binomial regressions (based on tests of overdispersion) with year, month, day of week, Christmas, New Year's eve controls; standard errors in parentheses*

Table 7: Robustness of the result: sensitivity to the exclusion of specific years

	Dependent variable: Number of domestic abuse cases per day					
	All years	2018 excluded	2016 excluded	2014 excluded	2012 excluded	2010 excluded
	(1)	(2)	(3)	(4)	(5)	(6)
Tournament on	0.014	0.005	0.038	0.047	0.034	−0.051
	(0.030)	(0.031)	(0.035)	(0.035)	(0.032)	(0.033)
England win	−0.038	−0.009	−0.054	−0.047	0.015	−0.070
	(0.091)	(0.136)	(0.099)	(0.091)	(0.100)	(0.093)
England draw	0.046	0.030	0.146	0.049	−0.018	0.041
	(0.104)	(0.107)	(0.130)	(0.115)	(0.111)	(0.122)
England lost	−0.014	−0.045	−0.009	0.006	0.009	−0.038
	(0.089)	(0.116)	(0.096)	(0.102)	(0.092)	(0.091)
After England	0.073	0.056	0.078	0.083	0.088	0.056
	(0.055)	(0.069)	(0.062)	(0.059)	(0.059)	(0.058)
Alcohol	−0.719***	−0.723***	−0.728***	−0.728***	−0.712***	−0.703***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Tournament on:Alcohol	−0.064	−0.054	−0.094*	−0.166***	−0.089**	0.067
	(0.044)	(0.045)	(0.053)	(0.054)	(0.047)	(0.048)
England win:Alcohol	0.610***	0.428*	0.693***	0.661***	0.609***	0.551***
	(0.135)	(0.210)	(0.147)	(0.136)	(0.147)	(0.139)
England draw:Alcohol	−0.056	−0.047	−0.312*	−0.044	0.066	0.012
	(0.165)	(0.168)	(0.222)	(0.182)	(0.173)	(0.191)
England lost:Alcohol	0.223	0.183	0.331**	0.223	0.185	0.164
	(0.135)	(0.178)	(0.145)	(0.157)	(0.140)	(0.140)
After England:Alcohol	0.051	−0.071	0.082	0.043	0.073	0.084
	(0.084)	(0.108)	(0.094)	(0.091)	(0.088)	(0.088)
Observations	6,034	5,416	5,302	5,304	5,302	5,304

[a] *$^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$*

[b] *Estimates are from a series of negative binomial regressions (based on tests of overdispersion) with year, month, day of week, Christmas, New Year's eve controls; standard errors in parentheses*

Table 8: Non domestic abuse incidents that are about power

	Dependent variable:	
	Sexual	OtherAbuse
	(1)	(2)
Type.of.dayTournament on	0.051	0.013
	(0.074)	(0.046)
Type.of.dayEngland win	−0.191	−0.132
	(0.223)	(0.137)
Type.of.dayEngland draw	−0.064	0.124
	(0.259)	(0.153)
Type.of.dayEngland lost	−0.269	0.061
	(0.227)	(0.137)
Type.of.dayAfter England	−0.065	0.023
	(0.136)	(0.083)
AlcoholYes	−0.894***	−0.927***
	(0.026)	(0.016)
Type.of.dayTournament on:AlcoholYes	−0.069	0.004
	(0.153)	(0.091)
Type.of.dayEngland win:AlcoholYes	0.277	0.546
	(0.455)	(0.270)
Type.of.dayEngland draw:AlcoholYes	0.609	−0.137
	(0.499)	(0.345)
Type.of.dayEngland lost:AlcoholYes	0.280	0.264
	(0.476)	(0.284)
Type.of.dayAfter England:AlcoholYes	0.244	0.040
	(0.271)	(0.176)
Observations	6,034	6,034
Log Likelihood	−11,656.580	−16,516.090
θ	4.172*** (0.162)	9.572*** (0.360)
Akaike Inf. Crit.	23,391.170	33,110.180

Note: *p<0.1; **p<0.05; ***p<0.01

[a] **p<0.1; **p<0.05; ***p<0.01*

[b] *Estimates are from a series of negative binomial regressions (based on tests of overdispersion) with year, month, day of week, Christmas, New Year's eve controls; standard errors in parentheses*

Table 9: Football vs Rugby

	N			
	Football Alcohol	Football No Alcohol	Rugby Alcohol	Rugby No Alcohol
	(1)	(2)	(3)	(4)
Tournament on	-0.059^{*}	0.018	-0.042	0.005
	(0.021)	(0.034)	(0.019)	(0.031)
England win	0.570^{***}	-0.036	0.045	-0.0001
	(0.061)	(0.085)	(0.034)	(0.051)
England draw	0.006	0.041		
	(0.070)	(0.113)		
England lost	0.140	0.045	-0.025	0.056
	(0.059)	(0.087)	(0.053)	(0.079)
After England	0.127^{**}	0.080^{**}	-0.031	-0.010
	(0.037)	(0.057)	(0.031)	(0.048)
Observations	3,017	3,017	3,017	3,017
Log Likelihood	$-11{,}693.270$	$-9{,}211.801$	$-11{,}695.480$	$-9{,}228.742$
θ	67.550^{***} (3.414)	42.604^{***} (3.372)	67.338^{***} (3.398)	41.133^{***} (3.187)
Akaike Inf. Crit.	23,452.540	18,489.600	23,454.970	18,521.490

Table 10: Football vs Rugby2

	Dependent variable:	
	Domestic_Abuse	
	Football	Rugby
	(1)	(2)
Tournament on	0.014	0.035
	(0.030)	(0.024)
England win	−0.038	−0.136***
	(0.091)	(0.048)
England draw	0.046	
	(0.104)	
England lost	−0.014	−0.093
	(0.089)	(0.078)
After England	0.073	−0.081**
	(0.055)	(0.042)
Alcohol	−0.719***	−0.718***
	(0.008)	(0.008)
Tournament on:Alcohol	−0.064	−0.122***
	(0.044)	(0.025)
England win:Alcohol	0.610***	0.454***
	(0.135)	(0.067)
England draw:Alcohol	−0.056	
	(0.165)	
England lost:Alcohol	0.223	0.274**
	(0.135)	(0.116)
After England:Alcohol	0.051	0.156**
	(0.084)	(0.059)
Observations	6,034	6,034
Log Likelihood	−22,725.560	−22,704.010
θ	20.200*** (0.596)	20.483*** (0.608)
Akaike Inf. Crit.	45,529.120	45,482.020
Note:		*p<0.1; **p<0.05; ***p<0.01

Table 11: Characteristics of alcohol-related domestic abuse cases

	Dependent variable:					
	N					
	(1)	(2)	(3)	(4)	(5)	(6)
Tournament on	−0.073**	0.011	−0.094*	0.034	−0.055	0.012
	(0.035)	(0.022)	(0.052)	(0.033)	(0.037)	(0.023)
England win	0.474***	−0.080	0.428***	0.008	0.380***	−0.062
	(0.090)	(0.066)	(0.130)	(0.095)	(0.097)	(0.070)
England draw	−0.004	0.033	0.138	0.041	0.001	0.004
	(0.119)	(0.075)	(0.186)	(0.127)	(0.129)	(0.080)
England lost	0.056	−0.023	0.019	0.119	0.151	−0.010
	(0.093)	(0.064)	(0.137)	(0.091)	(0.097)	(0.068)
After England	0.089	0.051	0.169*	0.101*	0.106*	0.066
	(0.060)	(0.040)	(0.086)	(0.059)	(0.064)	(0.042)
Locationpublic	−0.871***	−0.850***				
	(0.014)	(0.007)				
Newlyreported			0.482***	0.606***		
			(0.011)	(0.007)		
Serious					−1.131***	−1.516***
					(0.011)	(0.007)
Tournament on:Locationpublic	0.116	0.046				
	(0.076)	(0.042)				
England win:Locationpublic	0.520**	0.335**				
	(0.179)	(0.128)				
England draw:Locationpublic	0.063	0.058				
	(0.287)	(0.156)				
England lost:Locationpublic	0.643***	0.510***				
	(0.187)	(0.118)				
After England:Locationpublic	0.255*	0.169**				
	(0.130)	(0.077)				
Tournament on:Newlyreported			0.078	−0.053		
			(0.065)	(0.042)		
England win:Newlyreported			0.002	−0.100		
			(0.173)	(0.126)		
England draw:Newlyreported			−0.184	−0.010		
			(0.253)	(0.166)		
England lost:Newlyreported			0.067	−0.165		
			(0.181)	(0.122)		
After England:Newlyreported			−0.075	−0.065		
			(0.115)	(0.077)		
Tournament on:Serious					−0.037	0.035
					(0.063)	(0.039)
England win:Serious					0.235	0.163
					(0.159)	(0.124)
England draw:Serious					0.012	0.185
					(0.231)	(0.142)
England lost:Serious					−0.084	0.284**
					(0.176)	(0.116)
After England:Serious					0.032	0.065
					(0.111)	(0.074)
Observations	6,034	6,034	5,304	5,304	6,034	6,034

Note: *p<0.1; **p<0.05; ***p<0.01

Table 12: Alcohol transition

	Dependent variable:
	Alcohol
TypeTournament_on	-0.136^{**}
	(0.067)
TypeEngland_win	0.546^{***}
	(0.156)
TypeEngland_draw	0.460^{*}
	(0.202)
TypeEngland_lost	-0.105
	(0.177)
TypeAfter_England	0.035
	(0.112)
Previous_alcYes	5.194^{***}
	(0.017)
TypeTournament_on:Previous_alcYes	-0.055
	(0.098)
TypeEngland_win:Previous_alcYes	-0.081
	(0.265)
TypeEngland_draw:Previous_alcYes	-0.306
	(0.375)
TypeEngland_lost:Previous_alcYes	0.210
	(0.279)
TypeAfter_England:Previous_alcYes	0.094
	(0.172)
Observations	97,292
Log Likelihood	$-48{,}227.970$
Akaike Inf. Crit.	96,533.940
Note:	*p<0.1; **p<0.05; ***p<0.01

Table 13

	Dependent variable:		
	Daystilnext_round	Dayssincelast_round	Report_delay
	(1)	(2)	(3)
TypeTournament_on	−0.009	0.016	0.036
	(0.030)	(0.031)	(0.045)
TypeEngland_win	−0.279***	0.022	−0.135
	(0.105)	(0.091)	(0.131)
TypeEngland_draw	−0.089	0.002	0.009
	(0.106)	(0.115)	(0.153)
TypeEngland_lost	−0.089	−0.145*	−0.443***
	(0.094)	(0.085)	(0.125)
TypeAfter_England	−0.117**	0.067	−0.239***
	(0.058)	(0.055)	(0.078)
AlcoholYes	−0.023**	0.019*	−0.745***
	(0.010)	(0.010)	(0.015)
TypeTournament_on:AlcoholYes	0.050	0.016	0.130
	(0.055)	(0.059)	(0.086)
TypeEngland_win:AlcoholYes	0.415*	−0.112	0.301
	(0.185)	(0.157)	(0.228)
TypeEngland_draw:AlcoholYes	−0.132	−0.266	−0.577*
	(0.200)	(0.211)	(0.319)
TypeEngland_lost:AlcoholYes	0.124	0.321*	0.656***
	(0.171)	(0.165)	(0.241)
TypeAfter_England:AlcoholYes	0.159	−0.120	−0.206
	(0.112)	(0.103)	(0.154)
Observations	95,091	95,091	272,793
Log Likelihood	−597,358.800	−599,447.300	−631,951.700
θ	0.606*** (0.002)	0.586*** (0.002)	0.096*** (0.0003)
Akaike Inf. Crit.	1,194,796.000	1,198,973.000	1,263,981.000

Note: *p<0.1; **p<0.05; ***p<0.01

Table 14

	Dependent variable:			
	Income_no			
	(1)	(2)	(3)	(4)
Type.of.dayTournament on	0.018	−0.022	0.121*	−0.038
	(0.033)	(0.045)	(0.062)	(0.093)
Type.of.dayEngland win	−0.070	−0.065	0.172	−0.482*
	(0.102)	(0.136)	(0.183)	(0.344)
Type.of.dayEngland draw	0.119	−0.085	−0.181	−0.137
	(0.115)	(0.161)	(0.246)	(0.339)
Type.of.dayEngland lost	−0.081	−0.107	0.365*	0.050
	(0.099)	(0.134)	(0.166)	(0.252)
Type.of.dayAfter England	0.103	0.006	0.100	−0.137
	(0.061)	(0.082)	(0.114)	(0.173)
AlcoholYes	−0.718***	−0.685***	−0.681***	−0.706***
	(0.009)	(0.013)	(0.019)	(0.029)
Type.of.dayTournament on:AlcoholYes	−0.073	−0.022	−0.104	0.129
	(0.050)	(0.076)	(0.110)	(0.161)
Type.of.dayEngland win:AlcoholYes	0.585***	0.639**	−0.053	2.795***
	(0.154)	(0.216)	(0.345)	(0.473)
Type.of.dayEngland draw:AlcoholYes	−0.187	0.355	0.327	−0.069
	(0.191)	(0.268)	(0.427)	(0.684)
Type.of.dayEngland lost:AlcoholYes	0.255	0.290	−0.146	−0.192
	(0.154)	(0.225)	(0.320)	(0.525)
Type.of.dayAfter England:AlcoholYes	−0.034	0.080	0.235	0.562
	(0.096)	(0.140)	(0.195)	(0.288)
Observations	6,034	6,034	6,034	6,034
Log Likelihood	−20,792.850	−14,570.920	−11,316.060	−8,282.382
θ	17.652*** (0.568)	18.443*** (1.181)	14.978*** (1.533)	8.905*** (1.200)
Akaike Inf. Crit.	41,663.700	29,219.840	22,710.130	16,642.760

Note: *p<0.1; **p<0.05; ***p<0.01

Table 15: Deprivation

	Dependent variable:			
	Employment_no			
	(1)	(2)	(3)	(4)
Type.of.dayTournament on	0.018	−0.002	0.066	−0.049
	(0.033)	(0.045)	(0.061)	(0.095)
Type.of.dayEngland win	−0.084	0.023	−0.021	−0.355
	(0.102)	(0.133)	(0.188)	(0.314)
Type.of.dayEngland draw	0.145	−0.191	−0.315	0.463
	(0.114)	(0.166)	(0.252)	(0.280)
Type.of.dayEngland lost	−0.085	−0.018	0.115	0.075
	(0.099)	(0.130)	(0.172)	(0.248)
Type.of.dayAfter England	0.109*	−0.013	0.045	−0.068
	(0.061)	(0.082)	(0.112)	(0.168)
AlcoholYes	−0.716***	−0.695***	−0.686***	−0.698***
	(0.009)	(0.013)	(0.019)	(0.029)
Type.of.dayTournament on:AlcoholYes	−0.058	−0.043	−0.161	0.121
	(0.050)	(0.075)	(0.111)	(0.165)
Type.of.dayEngland win:AlcoholYes	0.603***	0.425	0.797**	0.687
	(0.154)	(0.218)	(0.297)	(0.524)
Type.of.dayEngland draw:AlcoholYes	−0.294*	0.845**	1.194**	−0.610
	(0.195)	(0.259)	(0.383)	(0.768)
Type.of.dayEngland lost:AlcoholYes	0.247	0.128	0.265	−0.367
	(0.155)	(0.225)	(0.297)	(0.566)
Type.of.dayAfter England:AlcoholYes	−0.040	0.143	0.248	0.354
	(0.096)	(0.140)	(0.190)	(0.292)
Observations	6,034	6,034	6,034	6,034
Log Likelihood	−20,726.560	−14,694.740	−11,574.920	−7,884.137
θ	17.768*** (0.575)	17.855*** (1.105)	14.521*** (1.359)	11.281*** (1.878)
Akaike Inf. Crit.	41,531.130	29,467.490	23,227.840	15,846.270

Note: *p<0.1; **p<0.05; ***p<0.01

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