Divided for Good: Football Rivalries and Social Cohesion in Latin America

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Abstract

This paper explores the impact of football rivalries on social cohesion in Latin America. Unlike other parts of the world, Latin American football rivalries create intracommunity divisions that transcend other cleavages, such as regionality, socioeconomic status, or ethnicity. Moreover, matches between rivals offer the opportunity to study how salient and polarizing events that involve opposing groups from within a community affect its cohesiveness. Combining quasi-experimental variation in the timing of matches among the twenty most important rivalries in the region with public opinion surveys, I find that attitudes and beliefs conducive to social cohesion tend to improve for up to 30 days after a match. The effect is strongly moderated by the behavior of football players, as captured by the number of red cards awarded during the game, suggesting that football players serve as role models for the communities they represent.

JEL Codes: D91, O15, Z13, Z21

1   Introduction

Political polarization has surged in recent times, raising concerns about social divisions, conflict, and the future of democracy (Iyengar et al., 2019; Boxell et al., 2020). An often mentioned cause is the behavior of many political leaders, who utilize and reinforce pre-existing cleavages as a political strategy, especially during electoral campaigns. Despite their conjectured importance, there is limited evidence on the impact of large-scale events that divide and polarize communities from within on community cohesiveness, and the role played by the main actors involved in them.

In this paper, I approach this problem by focusing on football[1] rivalries in Latin America, which generate events (matches—also known as derbies or "*clásicos*") that polarize communities temporarily along the lines of the two teams involved. Moreover, football players act as main characters in the event, representing their clubs and their corresponding followers. Football is the most popular sport in Latin America and in most parts of the world, and is often considered to be a fundamental element of local cultures (Alabarces, 2003). In particular, rivalries stir intense passions among fans. For these reasons, derbies have the potential to be an important determinant of the social fabric of communities where they occur, providing an ideal setting to study how polarizing events impact cohesiveness.

I study the short-run impact of derbies on attitudes and beliefs conducive to social cohesion, by leveraging quasi-random variation arising from the coincidence of survey rounds with football matches. I combine a novel dataset of 104 derbies involving the 20 most important rivalries in Latin America with survey data from the AmericasBarometer, covering 11 countries between 2007 and 2019. I focus the analysis on a social cohesion index obtained as a function of two variables: trust in the local community and finding social problems to be the main problem in the country. While the former relates to a limited or directed measure

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[1]I use the term "football" rather than "soccer" following the usual practice in the social sciences when studying this sport in the context of Latin America.

of trust, the latter captures more generalized or country-level perceptions. Thus, the two variables complement each other and provide a comprehensive measure of social cohesion. Moreover, since major public opinion surveys do not elicit football team preference, I use Google Trends data to construct regional-level measures of exposure to each rivalry in the sample.

The baseline results indicate that social cohesion tends to *improve* in the aftermath of a derby, with the strongest effect under a 5-day window specification around the match (0.23 standard deviations) but remaining statistically significant up to a 30-day window (0.08 standard deviations). Crucially, however, the effect is strongly moderated by the behavior of the players: As the number of red cards awarded during the game increases (reflecting violent or unethical behavior), the effect tends to reverse, becoming negative after games with 3 red cards or more. Effects are robust under each variable composing the social cohesion index separately as well as under a battery of checks, including alternative model specifications, testing for pre-trends, dropping one country at a time from the sample, reverse causality in the number of red cards, and adjusting standard errors for multiple hypothesis testing.

Besides red cards, I also explore how effects vary depending on whether the match ends in a draw or is of high stakes. There are no significant differences under the former, indicating that the existence of winners and losers does not affect the results, which may reflect that it's mainly about the event (and the behavior of the participants). In contrast, effects tend to be stronger after high-stake matches, suggesting that the impact grows with the amount of attention it receives. As for individual characteristics, I find no significant differences across gender, age, or educational attainment. This is consistent with the widespread interest in football across Latin America.

Finally, I also test the impact of derbies on other outcomes. I consider perceived insecurity, general mood or optimism, and trust in the president. Results show no changes in how unsafe respondents feel after a match, ruling out changes in criminal activity as a

potential mechanism. Respondents also don't feel more optimistic about their country's or their own economic situation, implying that football matches do not induce a general state of good mood that may be driving the baseline results. Finally, trust in the president does not change, indicating that belief updating is restricted only to fellow community members.

This research relates to several strands of literature. First, to the large body of work that studies the determinants of interpersonal trust and social cohesion (Alesina and La Ferrara, 2002; Nunn and Wantchekon, 2011; Bazzi et al., 2019; Ronconi and Ramos-Toro, 2023), especially the set of papers that considers the power of sports to generate intergroup contact and community-building (Lowe, 2021; Mousa, 2020).[2] More closely related to my work, Depetris-Chauvin et al. (2020) explores how victories by national football teams in Africa promote social integration, as individuals tend to identify more with their nation than with their ethnic group, eventually leading to a reduction in civil conflict. My paper complements their study by focusing on a fundamentally different type of event within the realm of football: matches between local rivals, which divide communities from within as opposed to uniting them against a foreign one. Moreover, I also complement their analysis by finding further evidence that football players can act as role models for their communities, although I leverage red cards instead of ethnic diversity of the roster to identify the mechanism. Additionally, Ajzenmann et al. (2023) presents results from a field experiment with fictitious Twitter profiles, where they interact different Brazilian political identities with football team preferences, and show that highly polarized political identities can hinder the benefits to social interactions obtained from a shared football team identity. Their result may imply that the effects documented in this paper are a lower bound, potentially being higher in less polarized contexts. In general, my work contributes to this literature by providing evidence that even highly polarized events at the intra-community level have the potential to improve

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[2]Many other papers have studied sports as a window into understanding human behavior. See, for example, Palacios-Huerta (2003); Garicano et al. (2005); Miguel et al. (2011); Card and Dahl (2011); Glennon et al. (2022); Schläpfer (2024).

social cohesion, although subject to the proper and ethical behavior of the main characters involved.

Second, this paper speaks to the growing literature that documents the importance of role models in determining beliefs and behavior (Jensen and Oster, 2009; La Ferrara et al., 2012), especially in developing countries (Lafortune et al., 2018; Dalton et al., 2021; Serra, 2022). It demonstrates that football players, through their conduct on the field, can influence beliefs supporting social cohesion. This is consistent with the idea that players model how well-intentioned and peaceful interactions are possible, even when confronting traditional rivals.

Finally, this research contributes to the set of papers studying the impact of mass sporting events on attitudes towards political incumbents (Healey et al., 2010; Fowler and Montagnes, 2015; Corbi, 2018). Based on a large sample of respondents and quasi experimental variation, it shows that in Latin America—a region characterized by presidential systems—there is no evidence that football derbies have an effect on trust in the incumbent president.

2   Context

In the vast majority of Latin American countries, football is by far the most popular sport: around 75% of men and 45% of women are interested in it.[3] Far from being only a recreational activity, football represents a fundamental element of Latin American culture (Alabarces, 2003). For example, this reflects in the fact that people are more likely to identify with a local football team than to be interested in the sport: almost 85% of men and 65% of women claim to support a local team.

An important feature of football in Latin America is that teams generally have a

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[3]Based on Repucom (2014), NielsenSports (2018), and country-specific reports (COPES, 2014; Ipsos, 2019; Datafolha, 2018; GfK Adimark, 2016, 2017, 2018, 2019; Click, 2018; Capital MX, 2016; Datum Internacional, 2018; Opción Consultores, 2014).

traditional rival—a team they have long confronted and toward which they came to develop a special sense of antagonism. Some famous examples include Boca Juniors v. River Plate in Argentina, Flamengo v. Vasco da Gama in Brazil, and América v. Chivas in Mexico. Matches against the rival are generally the most important ones during the season and represent highly salient events.[4] These rivalries are known for stirring strong passions among the fans, sometimes leading to violence within and in the area surrounding football stadiums. Moreover, they are rather frequent, typically taking place around four times per year.

The other fundamental feature of Latin American football is that the followers of rival teams are not significantly segregated by characteristics such as location, ethnicity, or religion, unlike famous examples in other parts of the world, like Scotland's Celtics v. Rangers (Catholics v. Protestants), Spain's Barcelona v. Real Madrid (Catalans v. Madrileños), and, in US baseball, the Red Sox v. the Yankees (Boston v. New York residents). Instead, followers belong to the same communities and share their social networks, interacting with each other on a daily basis as friends, relatives, or neighbors. This implies that the cleavage induced by football rivalries tends to cut across other cleavages in the community, bringing together people from all socioeconomic groups, ages, genders, and religions behind the lines of each of the two teams.

Although it may be possible to find segregation among followers of smaller teams, this is not the case with big first-division teams that have hundreds of thousands—if not millions—of followers, such as the ones considered in this paper. Unfortunately, to the best of my knowledge, there are no data systematically documenting characteristics of football supporters in Latin America. However, I attempt to address this limitation in two ways. First, I leverage Google Trends data on the distribution of searches for each team across cities to provide suggestive evidence of limited geographical segregation (Figure A2). Second, I

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[4]Figure A1 in the appendix compares Google searches on some of the most important rivalries in Latin America in their respective countries to searches on the Superbowl in the United States. It shows spikes around the date of each match, with football rivalries being at least as salient as the Superbowl.

look into surveys collected by consulting firms in different countries, where they elicited football team preference and socioeconomic status of respondents. I find little differences in socioeconomic status between followers of rival teams. Figure A3 presents the evidence for Bolivian, Brazilian, Chilean, Ecuadorian, and Peruvian rivalries.

Finally, unlike other polarizing events such as political elections, derbies do not impact other deeper determinants of social cohesion, such as expectations about policy changes or political incumbents. This makes football derbies a clean setting to study how divisive events affect social attitudes and allows to explore the impact of role models, captured by football players in this case.

3   Methods

In this section, I discuss the data and the empirical approach pursued to estimate the short-run, causal impact of football matches between rivals on attitudes and beliefs conducive to social cohesion.

3.1   Data

The analysis combines individual surveys, a novel dataset of football rivalries and matches, and Google search-based measures of rivalries' salience across regions in Latin America.

3.1.1   Individual Attitudes

The data on individual attitudes and characteristics come from the AmericasBarometer, a public opinion survey conducted by the LAPOP. I include all waves between 2007 and 2019 collected in eleven Latin American countries: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Honduras, Mexico, Paraguay, Peru, and Uruguay.[5]

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[5]Source: The AmericasBarometer by the LAPOP Lab, www.vanderbilt.edu/lapop.

While the AmericasBarometer surveys a large range of attitudes, I focus on questions related to social cohesion and other potentially relevant outcomes. To measure social cohesion, I exploit two questions that were asked in all waves of the sample. One concerns interpersonal trust: "*Speaking of the people from around here, would you say that people in this community are very trustworthy, somewhat trustworthy, not very trustworthy or untrustworthy?*" The other question asks what the respondent perceives to be the most serious problem in the country: "*In your opinion, what is the most serious problem faced by the country?*" This is open ended, so responses are classified into thirty-seven topics by LAPOP, which I further classify into six broad categories: Society, Economy, Government, Infrastructure, Health & Education, and Other. Section A.2.1 in the appendix shows the mapping between topics and categories.

I combine the question on interpersonal trust with an indicator for mentioning societal problems in the second question, obtaining a standardized index (Anderson, 2008) that is the main outcome of interest in the paper (henceforth, the Social Cohesion Index). Other potentially relevant outcomes include attitudes and beliefs about the president, insecurity, and the respondent's economic situation. Finally, I also collect individual characteristics, including region of residence, gender, age, years of education, employment status, civil status, a rural- or urban-residence indicator, and religion.

3.1.2 Football Matches

The dataset on football matches was constructed using online databases from LiveFutbol and the Rec.Sport.Soccer Statistics Foundation.[6] It includes 104 events that took place within one week of a survey round of the AmericasBarometer in their corresponding country. It includes match date and characteristics, including result, number of yellow and red cards, and whether the match qualifies as a friendly game, a regular-season game, or an international

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[6]Other sources were used to complement missing values, including each country's football-association website and Wikipedia page.

competition.

These matches represent twenty of the most important football rivalries in Latin America. These rivalries were selected with the objective of working with matches that count as very salient events, at least in the teams' region.[7] The list of rivalries includes, in Argentina, Boca Juniors v. River Plate (Buenos Aires City) and Rosario Central v. Newell's Old Boys (Santa Fe); in Bolivia, Blooming v. Oriente Petrolero (Santa Cruz) and Bolivar v. The Strongest (La Paz); in Brazil, Bahia v. Vitória (Bahia), Corinthians v. Palmeiras (São Paulo), Cruzeiro v. Atlético Mineiro (Minas Gerais), Flamengo v. Vasco da Gama (Rio de Janeiro), and Gremio v. Internacional (Rio Grande do Sul); in Chile, Colo-Colo v. Universidad de Chile (Santiago); in Colombia, América de Cali v. Deportivo Cali (Valle del Cauca), Independiente de Medellín v. Atlético Nacional (Antioquia), and Millonarios v. Santa Fe (Cundinamarca); in Ecuador, Barcelona v. Emelec (Guayas); in Honduras, Motagua v. Olimpia (Francisco Morazán); in Mexico, América v. Chivas (Mexico City-Jalisco) and Monterrey v. Tigres (Nuevo León); in Paraguay, Cerro Porteño v. Olimpia (Asunción); in Perú, Alianza Lima v. Universitario (Lima); and in Uruguay, Nacional v. Peñarol (Montevideo).

3.1.3 Rivalry Salience

The AmericasBarometer does not ask what football team the respondent supports, creating an empirical challenge: I need a measure of respondents' "exposure risk" to the different rivalries in the sample. I tackle this by leveraging Google Trends data, which provides regional-level (first-level administrative divisions) search intensity for any given search term. I build a measure of regional exposure to each rivalry by retrieving the search intensity of queries of the form *<Team1 Team2>* between March 2015 and March 2020. For example, for the Flamengo v. Vasco da Gama rivalry, I retrieve the search intensity of *<flamengo*

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[7] All rivalries involve first-division teams with very big fan bases, and they are generally considered the most important rivalries in their countries. A detailed description of the selection process can be found in Section A.2.2.

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vasco>. (When relevant, I use the standard team names abbreviations, in an attempt to emulate the most common search term for each rivalry.) These data allow me to determine which regions are exposed to treatment when a match takes place.

I normalize the data within each country so that the region most strongly exposed to a given rivalry in this period receives value 100 and all other region-rivalry pairs receive a value that represents the search intensity relative to the referenced one. I call this the GT-Country Index and exclude from the sample all region-rivalry pairs with a search intensity below 10% of the highest region-rivalry in that country. This threshold has the objective of filtering out regions that are unrelated to a given rivalry and thus should not be considered exposed to matches from that rivalry. For example, Rosario Central v. Newell's Old Boys is a rivalry from the city of Rosario, in the province of Santa Fe, Argentina. The vast majority of followers are located in that province and, indeed, its GT-Country Index scores below 10 in all provinces besides Santa Fe, so respondents from outside Santa Fe will not be considered exposed to matches between these two teams.

In order to make valid comparisons across countries, I need to account for cross-country differences in salience. That is, the search intensity of the highest region-rivalry pair in one country is in general not the same as the search intensity of the highest region-rivalry pair in another country, even though both receive a score of 100 on the GT-Country Index. Thus, I build a new index—referred to as GTI throughout the paper—which adjusts for cross-country differences in salience. Under this index, only one region-rivalry pair in the whole sample receives a value of 100 and all others receive a value that represents the search intensity relative to the reference pair. The region-rivalry pair with highest search intensity in Latin America is Cerro Porteño v. Olimpia in the department of San Pedro, Paraguay. See sections 3.2 and A.2 for more details on the sample and main variables used in the analyses.

Working with a treatment defined at the regional level has important implications for

interpreting the results. This paper provides evidence on how football matches affect social cohesion in regions where matches are highly salient. I am unable to run any individual-level analyses, such as estimating the impact on football fans v. non-football fans, as I do not observe individual exposure to any given match.

3.2 Identification Strategy

The objective is to identify the causal impact of football matches between traditional rivals on individual attitudes and beliefs. The identifying assumption is that there are no systematic differences between individuals surveyed before and after a match, given a set of fixed effects described below.[8]

The baseline empirical model is the following:

$$Y_i = \alpha + \beta T^p_{r(i),m(i)} + \Delta' X_i + \Theta_{r(i),m(i)} + \Gamma_{d[m(i)]} + \epsilon_i \qquad (1)$$

Where $r(i)$ refers to individual i's region of residence (first-level administrative division), $m(i)$ which match they were exposed to, and $d[m(i)]$ the date of that match. Y_i is any of the outcome variables considered. $T^p_{r(i),m(i)}$ is a treatment indicator taking a value of 1 if the individual was interviewed during the p days after match $m(i)$ in a region $r(i)$ that is in the top half of the GTI distribution for the rivalry represented by that match. X_i is a vector of individual characteristics (gender, age, education, and indicators for living in an urban area, being unemployed, identifying as Catholic, and being single). $\Theta_{r(i),m(i)}$ is a set of region-match fixed effects, imposing that identification comes from variability around each region-match pair. $\Gamma_{d[m(i)]}$ is a set of calendar fixed effects, including day of the week, day of the month, and month of the year, that control for the fact that matches tend to take place on certain days and at certain times of the year. Since treatment varies at the region-match

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[8]Similar strategies based on the exogeneity of the timing of sporting events have been exploited in the past. See, for example, Dohmen et al. (2006); Healey et al. (2010); Depetris-Chauvin et al. (2020).

level, standard errors are clustered at that level throughout the paper.

The sample is restricted to individuals interviewed during the p days before and after a match, who were exposed to only one match in that time frame, and who were residing in regions in the top half of the GTI distribution of the corresponding rivalry. Under the baseline specification of $p = 5$, this results in a sample size of 6,118 observations (2,751 treated and 3,367 control) coming from 32 matches and 93 region-match clusters.

As an alternative specification, the binary treatment indicator is replaced with the GTI interacted with a post-match indicator. This corresponds to a treatment-intensity type of regression, where the coefficient of interest represents how much larger is the effect when the salience of the match is one unit larger, as measured by the GTI. This specification has the benefit of using the full sample of respondents and not just those from region-rivalry pairs in the top half of the GTI distribution, resulting in a sample size of around 10,297 observations under $p = 5$ (4,662 treated and 5,635 control) coming from 45 matches and 181 region-match clusters. I also consider larger time windows of $p = 10$, $p = 15$, and $p = 30$.

Table 1: Balance table

	Post-Match 5d.							
Female	-0.0012							-0.0013
	(0.0031)							(0.0032)
Age		0.0001						0.0001
		(0.0001)						(0.0002)
Primary education			0.0100					0.0108
			(0.0138)					(0.0141)
Secondary education			0.0059					0.0095
			(0.0149)					(0.0160)
Higher education			-0.0029					0.0020
			(0.0166)					(0.0178)
Urban				-0.0097				-0.0086
				(0.0182)				(0.0182)
Unemployed					0.0013			0.0027
					(0.0083)			(0.0084)
Single						-0.0073		-0.0054
						(0.0052)		(0.0055)
Catholic							-0.0034	-0.0039
							(0.0057)	(0.0056)
Match-region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Calendar FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control mean	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Adj. R2	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Obs.	10297	10297	10297	10297	10297	10297	10297	10297

Note: All columns regress an indicator for being interviewed within five days after a match on different sets of individual characteristics. The sample includes individuals interviewed within a window of 10 days around a match. Controls include region-wave fixed effects and calendar fixed effects (day of the week, day of the month, and month of the year), to compare treated individuals with their corresponding control group. Standard errors are clustered at the region-match level. * $p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

In Table 1, I provide a balance test where I attempt to predict treatment status. Each column regresses an indicator taking value 1 if the respondent was surveyed within five days after a match on different sets of individual characteristics. To the extent that being interviewed before or after the event is as good as random, individual characteristics should not have predictive power over treatment status. Reassuringly, all coefficients are small and statistically insignificant. Moreover, the F-statistic for joint significance in the last column is 0.67 (p=0.73), providing evidence that also the full set of covariates together cannot predict treatment status.

4 Results

This section presents the results of the paper. First, it introduces the baseline results of how football rivalries affect social attitudes; second, it examines how different factors moderate the impact of derbies on cohesiveness; and third, it explores alternative outcomes to consider further mechanisms mediating the relationship between football matches and social cohesion.

4.1 Baseline Results

This section shows the effects of derbies on social attitudes and beliefs conducive to social cohesion. The main findings show that cohesiveness improves in the first few days after a match, fading out over a period of 30 days. These effects are robust to various exercises, including a treatment-intensity design, taking each component of the Social Cohesion Index separately, dropping one country at a time from the sample, and adjusting standard errors for multiple hypothesis testing.

Table 2 presents the baseline results. The first column presents the results of the five-day window specification, finding an increase in the SCI of 0.23 standard deviation units during that time period. Columns 2–4 expand the treatment window to 10, 15, and 30 days,

respectively, with effects amounting to 0.11σ, 0.09σ, and 0.08σ. Alternatively, columns 5–8 run the treatment-intensity specification, with similar but noisier findings.

Table 2: Main results: Social Cohesion Index

	(1) 5d.	(2) 10d.	(3) 15d.	(4) 30d.	(5) 5d.	(6) 10d.	(7) 15d.	(8) 30d.
Post-Match	0.23**	0.11**	0.09**	0.08**				
	(0.09)	(0.06)	(0.04)	(0.03)				
Post-Match (GTI)					0.0028***	0.0014*	0.0008	0.0016**
					(0.0010)	(0.0008)	(0.0007)	(0.0006)
Match-region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Calendar FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ind. controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control mean	-0.02	-0.03	-0.04	-0.04	-0.02	-0.03	-0.04	-0.03
Adj. R2	0.09	0.09	0.09	0.09	0.08	0.08	0.08	0.08
Obs.	6118	9311	11478	15390	10297	14889	17838	22645
Clusters	93	105	110	124	181	194	197	209

Note: The outcome variable in all columns is the Social Cohesion Index, a standardized index of trust in the local community and perception of social problems in the country. Post-Match takes a value of 1 if a respondent was interviewed within five days after a match and was located in a region-rivalry cluster with a GTI score in the top half of the distribution. Calendar fixed effects include day of the week, day of the month, and month of the year. Individual controls include a female indicator, age, and indicators for education level, living in an urban area, being unemployed, being single, and identifying as Catholic. Standard errors are clustered at the region-match level. * $p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

In the aftermath of a derby—an event that divides and polarizes the community from within—attitudes and beliefs related to social cohesion tend to improve. The magnitude of the effect is comparable to what is found in other studies that analyze the impact of different kinds of events on interpersonal attitudes. For example, Depetris-Chauvin et al. (2020) finds that national football team victories increase trust in fellow countrymen by 14% during the 15 days after the match. Alternatively, Lowe (2021) runs a field experiment where cricket

players in India are randomly assigned to playing with or against members of other castes, finding that being teammate with outgroup members increases non-teammate cross-caste friendships by 0.15σ three weeks after the event.

Tables A1 and A2 show that results are similar when considering the two components of the SCI separately, reflecting the broad nature of the impact that derbies have on interpersonal attitudes. In particular, individuals improve their perception of local as well as national social relations. Moreover, Table A3 indicates that derbies do not significantly affect the perception of other types of problems in the country. Finally, Figures A4 and A5 show that the baseline results are not driven by any single country in the sample under the binary treatment and the treatment intensity specifications.

4.2 Heterogeneous Effects

This section presents heterogeneity analyses, exploring whether treatment effects vary depending on characteristics of the match or of the respondent, with the objective of gaining a better understanding of why football matches may affect social attitudes. Table 3 shows how effects change on the basis of match characteristics under the baseline specification. Column 1 considers whether the match ends in a draw, finding little differences in the effect of the match along this line. Although it would be interesting to analyze heterogeneity by winning or losing, the fact that I don't observe what team the respondent supports prevents this possibility. Column 2 focuses on whether the match is of high stakes—an international competition or the knockout stages of a local competition. Although statistical power is low, there is evidence that the effect is considerably larger after high-stake matches, possibly reflecting higher salience among community members.

Table 3: Social Cohesion Index, heterogeneous effects by match characteristics

	(1)	(2)	(3)
	Interaction: Draw	Interaction: High-stakes	Interaction: Red cards
Post-Match 5d.	0.21**	0.22**	0.23***
	(0.10)	(0.09)	(0.09)
Post-Match 5d. x Interaction	0.04	0.14	-0.09***
	(0.07)	(0.09)	(0.02)
Match-region FE	Yes	Yes	Yes
Calendar FE	Yes	Yes	Yes
Ind. controls	Yes	Yes	Yes
Control mean	-0.02	-0.02	-0.04
Adj. R2	0.09	0.09	0.09
Obs.	6118	6118	5640

Note: Post-Match takes value 1 if a respondent was interviewed within five days of a match and was located in a region-rivalry pair with a GTI score in the top half of the distribution. A match is considered of high-stakes if it corresponds to an international competition or to the knockout stages of a local competition. In column 3 the interaction variable is de-meaned. Calendar fixed effects include day of the week, day of the month, and month of the year. Individual controls include a female indicator, age, and indicators for education level, living in an urban area, being unemployed, being single, and identifying as Catholic. Standard errors are clustered at the region-match level. * $p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

Finally, column 3 shows that the effect is strongly moderated by the number of red cards awarded during the game.[9] In football as in many other sports, red cards are awarded to players after violent or unethical behavior, causing them to leave the game and often be precluded from future matches. The magnitude of the interaction implies that, in matches with three red cards or more, the effect on social cohesion becomes negative (the average number of red cards is 0.77 in the sample). Table A5 shows similar patterns under the 30-day

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[9]The number of observations falls slightly because for some matches I could not obtain the number of red cards awarded. Reassuringly, the average effect in this subsample is virtually the same as in the full sample, as observed in the non-interacted coefficient.

specification.

When local rivals play violently or unethically against each another, the communities they represent tend to adopt more negative attitudes and beliefs about others. This result aligns with the idea of football matches as spectacles, where players serve as role models for their communities, embodying the possibility of peaceful coexistence with outgroups. The idea that spectacles have the power to influence beliefs has been highlighted since, at least, the work of Debord (1967). Moreover, Depetris-Chauvin et al. (2020) also finds evidence supporting a role model interpretation of football players. They observe that national football team victories are more likely to improve social attitudes when the ethnic diversity of the roster is higher. That is, when teams tend to incorporate a wider selection of the different groups in their communities, their victories influence more strongly attitudes related to social cohesiveness.

A concern that could jeopardize a causal interpretation of results is that violence in a football match may be endogenous to the state of pre-match social sentiment. In Table A7 I test this by regressing the number of red cards in a match on pre-match SCI among exposed regions, varying the time window between 5 and 30 days. Throughout the table, I fail to reject the null hypothesis that pre-match social cohesion predicts the number of red cards in a game.

Turning to heterogeneous effects across different types of individuals, Tables A4 and A6 show that there are no differences across individuals depending on gender, age, or education. While this is partly to be expected given the widespread interest in football in Latin America, such small differences also imply that football matches do not affect die-hard fans alone, but the community as a whole. This is consistent with the fact that these matches are highly salient events that capture the attention of the vast majority of people in their region of influence, at least for a few days after the event. For example, on the day after the match, it is common that all major newspapers feature in the front page the result of the game and

any scandals that may have occurred.

Importantly, Table A8 shows that the main results remain statistically significant after adjusting standard errors for multiple hypothesis testing, following Anderson (2008).

4.3   Alternative Outcomes

This section explores other outcomes to evaluate other potential mechanisms, including crime, general mood, and attitudes towards the government. Table 4 presents the results. Column 1 shows that the improvement in social cohesion is not driven by changes in perceived insecurity: In the aftermath of a match, respondents do not report feeling significantly less unsafe than before when responding to the question: "Speaking of the neighborhood where you live and thinking of the possibility of being assaulted or robbed, do you feel very safe, somewhat safe, somewhat unsafe, or very unsafe?" The outcome variable indicates whether the respondent answers "very unsafe" or "somewhat unsafe".

Column 2 shows that the improvement in social cohesion is not driven (or accompanied) by a generalized sense of optimism or good mood: In the aftermath of a match, respondents are not more likely to think that their or their country's economic situation is better than twelve months ago. The outcome measure is a standardized index (Anderson, 2008) built with the following two questions: (i) "Do you consider that your economic situation is better, the same, or worse than 12 months ago?" and (ii) "Do you consider that the economic situation of your country is better, the same, or worse than 12 months ago?"

Finally, Column 3 shows that the improvement in social cohesion is not driven by, nor results in higher trust in incumbent politicians: In the aftermath of a match, respondents are not more likely to trust the president. The outcome variable indicates whether the respondent answers "trust a lot" or "trust somewhat" [the president]. Moreover, this result speaks to the limited effect of popular sport events on the image of incumbents, something that has been debated in the political-economy literature with conflicting results (Healey

et al., 2010; Fowler and Montagnes, 2015; Corbi, 2018).

Table 4: Social Cohesion Index, heterogeneous effects

	(1)	(2)	(3)
	Feeling unsafe	Perceived economic situation	Trust in president
Post-Match 5d.	0.02	-0.16*	-0.05
	(0.04)	(0.09)	(0.04)
Match-region FE	Yes	Yes	Yes
Calendar FE	Yes	Yes	Yes
Ind. controls	Yes	Yes	Yes
Control mean	0.43	0.03	0.37
Adj. R2	0.08	0.14	0.10
Obs.	6002	6105	6026
Clusters	93	93	93

Note: Post-Match takes a value of 1 if a respondent was interviewed within five days of a match and was located in a region-rivalry pair with a GTI score in the top half of the distribution. Calendar fixed effects include day of the week, day of the month, and month of the year. Individual controls include a female indicator, age, and indicators for education level, living in an urban area, being unemployed, being single, and identifying as Catholic. Standard errors are clustered at the region-match level. * $p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

5 Discussion

This paper investigates the impact of football rivalries on social cohesion in Latin America, leveraging quasi-experimental variation in the timing of football matches and public opinion surveys across eleven countries and twenty rivalries. These rivalries create events that divide and polarize communities from within, yet they also offer opportunities for bonding across other social cleavages on each side of the divide. The main findings indicate that attitudes conducive to social cohesion tend to improve for up to 30 days after a match, with the

strongest effect observed within a 5-day window. The effect is significantly moderated by the number of red cards awarded during the game, suggesting that football players act as role models for their community. These results are robust across various specifications and checks, including alternative model specifications, testing for pre-trends, and dropping one country at a time from the sample.

However, this study is not without limitations. The nature of the design and the reliance on survey data constrains the analysis to short-term effects and self-reported measures, which may not fully capture the nuances of how football rivalries influence social cohesion. Additionally, the absence of individual-level data on football team preferences limits the ability to analyze the differential impact on fans versus non-fans and the relevance of victories and losses. Future research could aim to explore the impact of derbies on behavioral outcomes as well as longer-run effects on social cohesion. Moreover, experimental designs that can directly measure individual exposure to football matches would provide more granular insights into the mechanisms at play.

The insights from this study may be extended to other polarizing events, such as political elections, where the conduct of politicians can similarly impact social cohesion. Just as football players can act as role models by demonstrating sportsmanship, politicians may have the power to foster unity through proper behavior towards their opponents. This underscores the broader principle that the behavior of influential figures during polarizing events plays an important role in shaping social attitudes and community bonds.

Broader lessons from this study underscore the potential of sports, particularly football, to influence social attitudes and cohesion within communities. Adding to the body of work with similar conclusions (Depetris-Chauvin et al., 2020; Mousa, 2020; Lowe, 2021), the findings in this paper suggest that the behavior of athletes on the field can have significant social implications, highlighting the importance of promoting ethical conduct in sports. Policymakers and community leaders could leverage the unifying power of sports to foster

social cohesion, especially in regions with deeply rooted divisions. Encouraging positive role models in sports and emphasizing fair play could serve as effective strategies to enhance community bonds and mitigate social tensions.

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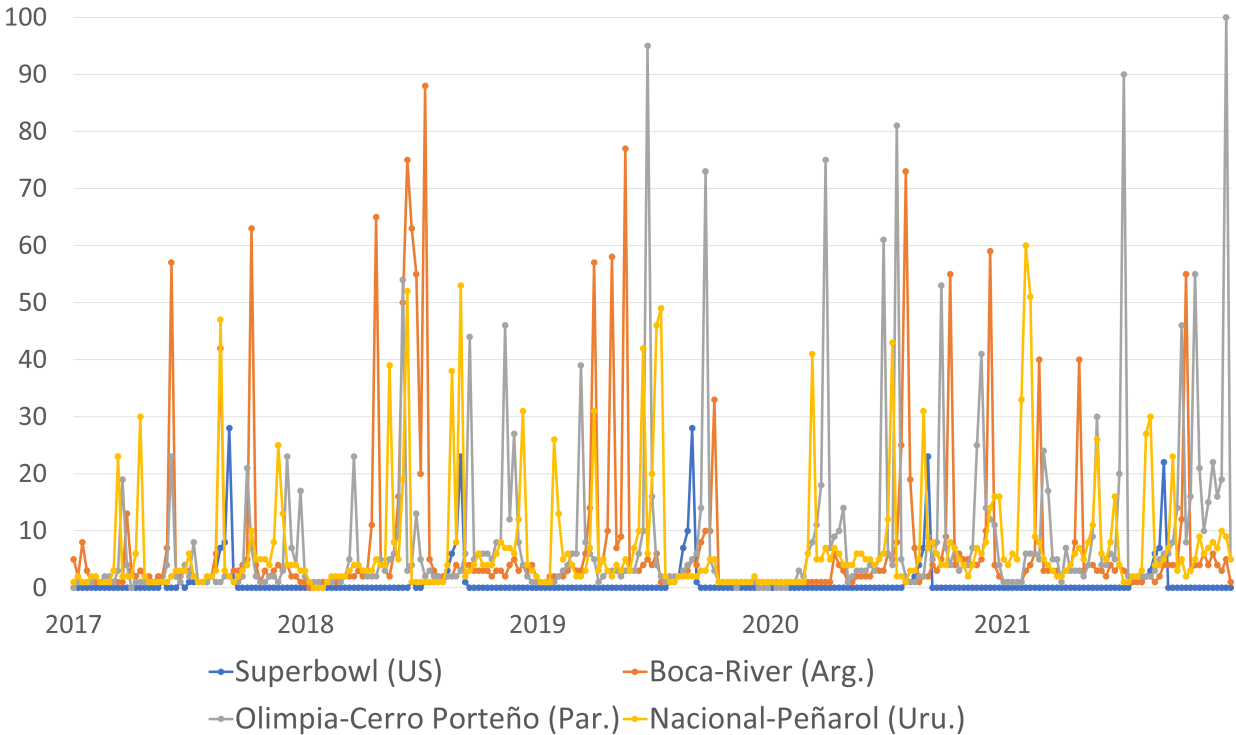
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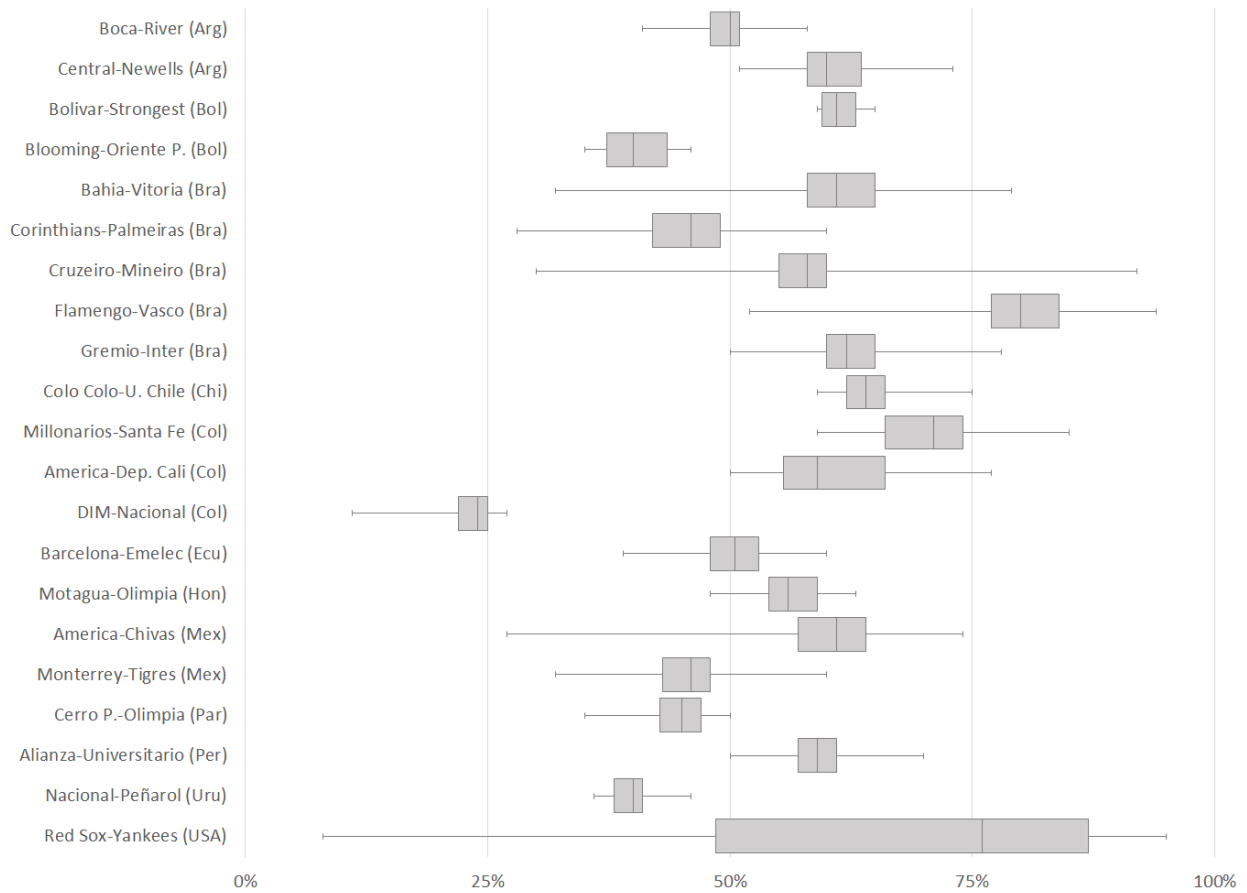
A   Appendix

A.1   Background

Figure A1: Salience of selected football rivalries compared to Superbowl in the US

Figure A2: Segregation of followers across cities for each rivalry in the sample

Note: Each box plot represents the distribution of search intensity for the first team in each rivalry pair over total search intensity for both teams across cities within the corresponding country. This measure is a proxy for the distribution of followers of the first team over followers of both teams across cities. For example, an observation with a value of 60% implies that, in that city, the first team in the pair takes 60% of the searches over the total number of searches for the two teams. All rivalries except Red Sox v. Yankees (which is included as reference of a geographically segregated case) tend to have short boxes, implying that cities where one of the teams is relatively more popular do not have a much larger share of followers than cities where the other team is relatively more popular. This is consistent with little geographic segregation.

Figure A3: Distribution of followers across socioeconomic strata

Bolivia

Rivalry	Team	Pop. %	D/E (56%)	C (34%)	A/B (10%)
1	Bolivar	22%	63%	30%	8%
1	The Strongest	9%	50%	38%	16%
2	Blooming	5%	56%	34%	16%
2	Oriente Petrolero	9%	56%	34%	14%

Brazil

Rivalry	Team	Pop. %	Group 1 (49%)	Group 2 (37%)	Group 3 (11%)	Group 4 (4%)
1	Flamengo	17%	56%	30%	10%	4%
1	Vasco	4%	46%	35%	15%	3%
2	Corinthians	14%	45%	44%	8%	3%
2	Palmeiras	6%	42%	39%	13%	6%
3	Gremio	3%	32%	48%	14%	6%
3	Inter	3%	37%	42%	16%	5%
4	Cruzeiro	4%	48%	37%	11%	4%
4	Mineiro	3%	39%	44%	13%	4%
5	Bahia	1%	72%	28%	0%	0%
5	Vitoria	1%	57%	43%	0%	0%

Chile

Rivalry	Team	Pop. %	D (40%)	C3 (29%)	C2 (19%)	ABC1 (13%)
1	Colo Colo	43%	46%	30%	16%	8%
1	U. de Chile	21%	34%	28%	25%	13%

Ecuador

Rivalry	Team	Pop. %	Group 1	Group 2	Group 3
1	Barcelona	30%	29%	21%	22%
1	Emelec	14%	13%	14%	11%
	Ratio	2.2	2.2	1.5	2.0

Peru

Rivalry	Team	Pop. %	E (14%)	D (22%)	C (27%)	A/B (15%)	Rural (22%)
1	Alianza Lima	26%	10%	26%	29%	16%	19%
1	Universitario	19%	14%	18%	31%	19%	18%

Note: This figure presents the distribution of football team followers across socioeconomic strata based on country-specific reports from consulting firms.Pop. % indicates the share of respondents that support each team. Each of the columns to the right indicate the share of each team's followers that fall within that socioeconomic stratum (the column title includes the population share in each stratum), except for Ecuador, where this statistic couldn't be computed. Instead, Ecuadorian data shows the share of the population within each stratum that supports each team. Overall, within any given rivalry, we observe a similar distribution of followers across socioeconomic strata. In the case of Ecuador, we observe a stable ratio across strata as in the population. These results are suggestive that there is little socioeconomic segregation of followers within any given rivalry. Bolivian data is based on an in-person survey of 2,000 individuals aged 18–70, during September-October 2019 (Ipsos, 2019). Brazilian data is based on an in-person survey of 2,826 individuals aged 16 and over, during January 2018 (Datafolha, 2018). Chilean data is based on the average of four in-person survey rounds with between 4,135 and 4,800 individuals aged 16 and over, between 2017 and 2019 (GfK Adimark, 2016, 2017, 2018, 2019). Ecuadorian data is based on a survey of 1,900 individuals during October 2018 (Click, 2018). Peruvian data is based on an in-person survey of 1,200 individuals aged 18–70, during September 2018 (Datum Internacional, 2018).

A.2 Data

A.2.1 Classification of "main problem in the country" responses

I reclassify the 37 topics mentioned as responses to the question of what is the main problem in the country into 6 broad categories, as follows:

- **Society**: crime, discrimination, drug addictions, gangs, insecurity, kidnappings, migration, popular protests, violence

- **Economy**: economy, external debt, inequality, inflation, lack of credit, lack of land to farm, poverty, unemployment

- **Government**: bad government, corruption, impunity, politicians, violation of human rights

- **Infrastructure**: housing lack of electricity, lack of water, roads in poor conditions, transportation

- **Health & Education**: education, health services, malnutrition

- **Other**: armed conflict, demographic explosion, drug traffic, environment, forced displacement, terrorism, other

A.2.2 Football rivalries selection

This section provides a description of the process of selection of football rivalries for the analysis. The key challenge to overcome is that I do not observe what football team the individual supports, which forces me to focus exclusively on rivalries that are very popular in at least one region.

The steps followed were the following:

1. Obtain the list of Latin American countries where football is the most popular sport.

2. Obtain the list of the most popular football rivalries for each country in the sample. For both items 1 and 2, since there is no obvious source to determine these lists, several sources were used: sport magazines articles, interviews to journalists, and Wikipedia pages, among other.

3. Whenever a team showed up more than once (i.e., it had more than one popular rivalry), keep only the main rivalry for that team. This was not common at all – typically teams have only one traditional rival – but in some cases, some sources indicated more than one rivalry. The objective of this step was to avoid including matches that could complicate the interpretation of the coefficients. Examples of rivalries dropped in this step include Chile's *U. de Chile v. U. Católica* (dominated by *Colo-Colo v. U. de Chile*) and Brazil's *Flamengo v. Fluminense* (dominated by *Flamengo v. Vasco da Gama*).

4. Compute the GTI index for each region-rivalry pair (impose zero exposure to foreign rivalries).

5. Drop rivalries that are not highly salient in at least one region. A handful of popular rivalries are actually not highly salient per the GTI in any single region. This happens for two different reasons: (1) when a rivalry is located in a highly populated region and is second in importance to another rivalry in that same region. Thus, even though it has thousands of followers, its GTI is close to zero in all regions of the country. Examples of rivalries dropped in this step include *Independiente v. Racing* (Argentina) and *Estudiantes LP v. Gimnasia LP* (Argentina), which are both located in Buenos Aires. And (2) when a country displays relatively low interest in football compared to the other countries in the sample, so that not even its most popular rivalry in its most popular region receives a reasonably high GTI score. Three rivalries and

30

their corresponding countries were dropped because of this: *Alajuelense v. Saprissa* (Costa Rica), *Municipal v. Comunicaciones* (Guatemala), and *Caracas v. Táchira* (Venezuela). Thus, even though football is arguably the most popular sport in these countries, the salience of the main rivalry there is low compared to rivalries in the other Latinamerican countries in the sample.

This process resulted in the 20 rivalries included in the sample, belonging to eleven different countries: Argentina, Bolivia, Brasil, Chile, Colombia, Ecuador, Mexico, Paraguay, Peru, and Uruguay. The list of rivalries includes: in Argentina, Boca Juniors v. River Plate (Buenos Aires City) and Rosario Central v. Newell's Old Boys (Santa Fe); in Bolivia, Blooming v. Oriente Petrolero (Santa Cruz) and Bolivar v. The Strongest (La Paz); in Brazil, Bahia v. Vitória (Salvador, Bahia), Corinthians v. Palmeiras (Sao Paulo, SP), Cruzeiro v. Atlético Mineiro (Minas Gerais), Flamengo v. Vasco da Gama (Rio de Janeiro), and Gremio v. Internacional (Rio Grande do Sul); in Chile, Colo-Colo v. Universidad de Chile (Santiago City); in Colombia, América de Cali v. Deportivo Cali (Valle del Cauca), Independiente de Medellín v. Atlético Nacional (Antioquia), and Millonarios v. Santa Fe (Cundinamarca); in Ecuador, Barcelona v. Emelec (Guayas); in Honduras, Motagua v. Olimpia (Francisco Morazán); in Mexico, América v. Chivas (Mexico City-Jalisco) and Monterrey v. Tigres (Nuevo León); in Paraguay, Cerro Porteño v. Olimpia (Asunción City); in Perú, Alianza Lima v. Universitario (Lima); and in Uruguay, Nacional v. Peñarol (Montevideo City).

A.2.3   Measuring rivalry salience with Google Trends data and sample selection

For each rivalry, I define a search term following the form *<Team1 Team2>* and retrieve the regional distribution of search intensity between March 2015 and March 2020. The objective is to mimic as best possible the way people actually run searches on Google, possibly when checking the time of an upcoming match or looking for the outcome of a recent one. For this

reason, I use a simplified version of each team's full name. For example, instead of writing $<$"Clube de Regatas do Flamengo" "Clube de Regatas Vasco da Gama"$>$, I use $<$*flamengo vasco*$>$. Importantly, the order of terms is irrelevant. Search intensity refers to the number of queries for the term over the total number of queries in that region and time period. Google reports search intensity normalized with respect to the highest region-period in the sample. Arguably, regions with higher search intensity for a given rivalry tend to be more interested in it. This is confirmed by the distribution of search intensities, as rivalries that are known to be local to a specific region display high search intensity only in those regions.

In the case of countries with multiple salient rivalries, and because different rivalries may attract different volumes of people, a concern is that a score of 100 may imply very different levels of saliency across rivalries. I deal with this by re-normalizing all region-rivalry scores within each country, so that only one region-rivalry attains a score of 100. I call the re-normalized index the GT-Country index. For example, in Argentina, the raw data obtained from Google Trends indicates that Rosario Central v. Newell's Old Boys scores 100 saliency in the province of Santa Fe. But after the re-normalization, and because Boca-River is a much more popular rivalry in that country, the score falls to 11 in that province underthe GT-country index. That is, in the region where it is most salient, rosario Central v. Newell's Old Boys has a search intensity equal to 11% of the search intensity for Boca-River where it is most salient, which is the province of Formosa (and not Buenos Aires City, where Boca Juniors and River Plate are from—likely reflecting the fact that, in relative terms, football is less salient in Buenos Aires than in Formosa). I use the GT-Country index to determine what rivalries are salient in each region. I apply a threshold of 10 on these distributions and assume that respondents below that threshold are not exposed to the rivalry, while respondents above are.

To elicit the intensive margin, and to allow for cross-country comparisons, I need a single measure of relative search intensity across all regions in the sample. I build the Google

Trends index—the GTI—by comparing search intensity across the top region-rivalries from each country, obtaining an adjustment factor for each of them. This adjustment factor allows to account for cross-country differences in football rivalry salience. Under the GTI, only one region-rivalry pair receives a score of 100 in the full sample, and all other pairs are normalized with respect to that one. The top three region-rivalry pairs are: (San Pedro, Paraguay - Cerro Porteño v. Olimpia)=100; (Paraguari, Paraguay - Cerro Porteño v. Olimpia)=93; (Formosa, Argentina - Boca Juniors v. River Plate)=90. Finally, note that region-rivalry pairs that combine a region from one country and a rivalry from another are set to 0 in both indices.

A.3 Main Results Appendix

Table A1: Main results: Trust

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	5d.	10d.	15d.	30d.	5d.	10d.	15d.	30d.
Post-Match	0.17**	0.06	0.04	0.09**				
	(0.07)	(0.05)	(0.05)	(0.04)				
Post-Match (GTI)					0.0014	0.0004	0.0003	0.0013*
					(0.0010)	(0.0008)	(0.0007)	(0.0007)
Match-region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Calendar FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ind. controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control mean	2.76	2.73	2.71	2.72	2.70	2.69	2.67	2.68
Adj. R2	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Obs.	5957	9061	11178	15007	10054	14527	17413	22143
Clusters	93	105	110	124	181	194	197	209

Note: Post-Match takes value 1 if respondent was interviewed in the number of days after a match indicated in each column and, in the case of columns 1-4, was located in a region-rivalry pair with GT-Latam index in the top half of the distribution. Calendar fixed effects include day of the week, day of the month, and month of the year. Individual controls include female indicator, age, education level, and indicators for urban status, unemployed status, being single, and identifying as catholic. Standard errors clustered at the region-match level. * $p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

Table A2: Main results: Concerned about societal problems

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	5d.	10d.	15d.	30d.	5d.	10d.	15d.	30d.
Post-Match	-0.07*	-0.05**	-0.04**	-0.01				
	(0.04)	(0.02)	(0.02)	(0.01)				
Post-Match (GTI)					-0.0012***	-0.0007**	-0.0005*	-0.0005*
					(0.0004)	(0.0004)	(0.0003)	(0.0003)
Match-region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Calendar FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ind. controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control mean	0.29	0.29	0.30	0.31	0.26	0.28	0.28	0.28
Adj. R2	0.11	0.11	0.11	0.11	0.10	0.10	0.10	0.10
Obs.	6109	9295	11458	15354	10285	14870	17815	22604
Clusters	93	105	110	124	181	194	197	209

Note: Post-Match takes value 1 if respondent was interviewed in the number of days after a match indicated in each column and, in the case of columns 1-4, was located in a region-rivalry pair with GT-Latam index in the top half of the distribution. Calendar fixed effects include day of the week, day of the month, and month of the year. Individual controls include female indicator, age, education level, and indicators for urban status, unemployed status, being single, and identifying as catholic. Standard errors clustered at the region-match level. * $p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

Table A3: All "main problem" outcomes, 5 day specification

| | (1) | (2) | (3) | (4) | (5) | (6) |
	Society	Economy	Government	Infrastructure	Health&Ed.	Other
Post-Match, 5d.	-0.07*	0.01	0.02	0.01	0.00	0.04
	(0.04)	(0.04)	(0.02)	(0.01)	(0.02)	(0.03)
Match-region FE	Yes	Yes	Yes	Yes	Yes	Yes
Calendar FE	Yes	Yes	Yes	Yes	Yes	Yes
Ind. controls	Yes	Yes	Yes	Yes	Yes	Yes
Control mean	0.29	0.34	0.13	0.02	0.05	0.19
Adj. R2	0.11	0.13	0.07	0.07	0.09	0.21
Obs.	6109	6109	6109	6109	6109	6109
Clusters	93	93	93	93	93	93

Note: Post-Match takes value 1 if respondent was interviewed in the 5 days after a match and was located in a region-rivalry pair with GT-Latam index in the top half of the distribution. Calendar fixed effects include day of the week, day of the month, and month of the year. Individual controls include female indicator, age, education level, and indicators for urban status, unemployed status, being single, and identifying as catholic. Standard errors clustered at the region-match level. * $p < 0.1$, **$p < 0.05$, ***$p < 0.01$

Table A4: Social Cohesion Index, heterogeneous effects by individual characteristics

	(1)	(2)	(3)
	Interaction: Female	Interaction: Age	Interaction: Educ.
Post-Match 5d.	0.2113**	0.2324***	0.2318***
	(0.0901)	(0.0856)	(0.0861)
Post-Match 5d. x Interaction	0.0373	0.0025*	-0.0025
	(0.0474)	(0.0015)	(0.0049)
Match-region FE	Yes	Yes	Yes
Calendar FE	Yes	Yes	Yes
Ind. controls	Yes	Yes	Yes
Control mean	-0.02	-0.02	-0.02
Adj. R2	0.09	0.09	0.09
Obs.	6118	6118	6118

Note: Post-Match takes value 1 if a respondent was interviewed within five days of a match and was located in a region-rivalry pair with a GTI score in the top half of the distribution. In columns 2 and 3 the interaction variable is de-meaned. Calendar fixed effects include day of the week, day of the month, and month of the year. Individual controls include a female indicator, age, and indicators for education level, living in an urban area, being unemployed, being single, and identifying as Catholic. Standard errors are clustered at the region-match level. * $p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

Table A5: Social Cohesion Index, heterogeneous effects by match characteristics (30 days)

	(1)	(2)	(3)
	Interaction: Draw	Interaction: High-stakes	Interaction: Red cards
Post-Match 30d.	0.077**	0.072**	0.075**
	(0.036)	(0.034)	(0.033)
Post-Match 30d. x Interaction	-0.002	0.231	-0.066*
	(0.051)	(0.148)	(0.039)
Match-region FE	Yes	Yes	Yes
Calendar FE	Yes	Yes	Yes
Ind. controls	Yes	Yes	Yes
Control mean	-0.04	-0.04	-0.03
Adj. R2	0.09	0.09	0.09
Obs.	15390	15390	13775

Note: Post-Match takes value 1 if a respondent was interviewed within thirty days of a match and was located in a region-rivalry pair with a GTI score in the top half of the distribution. A match is considered of high-stakes if it corresponds to an international competition or to the knockout stages of a local competition. In column 3 the interaction variable is de-meaned. Calendar fixed effects include day of the week, day of the month, and month of the year. Individual controls include a female indicator, age, and indicators for education level, living in an urban area, being unemployed, being single, and identifying as Catholic. Standard errors are clustered at the region-match level. * $p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

Table A6: Social Cohesion Index, heterogeneous effects by individual characteristics (30 days)

	(1)	(2)	(3)
	Interaction: Female	Interaction: Age	Interaction: Educ.
Post-Match 30d.	0.0817**	0.0755**	0.0724**
	(0.0403)	(0.0342)	(0.0338)
Post-Match 30d. x Interaction	-0.0110	0.0014	-0.0052
	(0.0346)	(0.0011)	(0.0039)
Match-region FE	Yes	Yes	Yes
Calendar FE	Yes	Yes	Yes
Ind. controls	Yes	Yes	Yes
Control mean	-0.04	-0.04	-0.04
Adj. R2	0.09	0.09	0.09
Obs.	15390	15390	15390

Note: Post-Match takes value 1 if a respondent was interviewed within thirty days of a match and was located in a region-rivalry pair with a GTI score in the top half of the distribution. In columns 2 and 3 the interaction variable is de-meaned. Calendar fixed effects include day of the week, day of the month, and month of the year. Individual controls include a female indicator, age, and indicators for education level, living in an urban area, being unemployed, being single, and identifying as Catholic. Standard errors are clustered at the region-match level. * $p < 0.1$, **$p < 0.05$, ***$p < 0.01$.
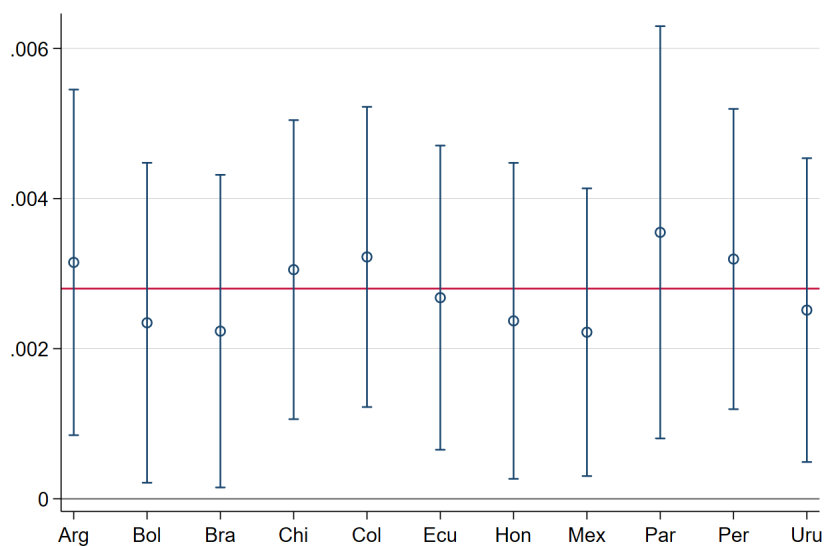
A.4   Robustness checks

Figure A4: Baseline specification, dropping one country at a time
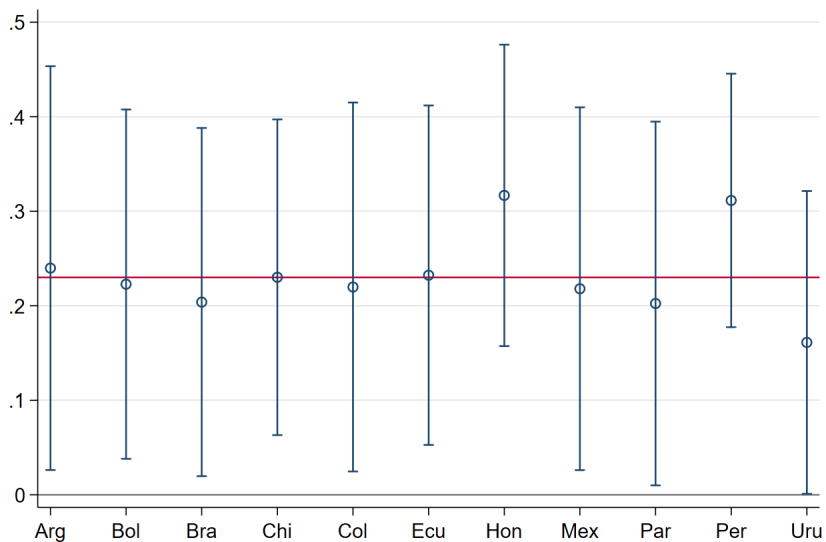
Note: This figure plots the coefficients and 95% confidence intervals from running the baseline specification (5-day binary treatment with full controls) dropping one country at a time. The horizontal red line indicates the effect under the full sample.

Figure A5: Treatment intensity specification, dropping one country at a time

Note: This figure plots the coefficients and 95% confidence intervals from running the 5-day treatment intensity specification with full controls dropping one country at a time. The horizontal red line indicates the effect under the full sample.

Table A7: Pre-match social cohesion does not predict number of red cards

	5 days		10 days		15 days		30 days	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SCI, Pre-Match	-0.0129	0.0867	0.2460	0.0279	0.1126	-0.1620	0.0852	0.1335
	(0.3235)	(0.4580)	(0.2514)	(0.3443)	(0.3870)	(0.5550)	(0.4898)	(0.7524)
Rivalry FE	No	Yes	No	Yes	No	Yes	No	Yes
Control mean	0.71	0.71	0.69	0.67	0.68	0.68	0.70	0.67
R2	0.00	0.14	0.01	0.18	0.00	0.18	0.00	0.19
Obs.	41	38	45	43	44	41	40	36

Note: Each column regresses the number of red cards in a match on pre-match SCI averages in regions exposed to the match, per the GTI index. Respectively, columns 1, 3, 5, and 7, average over the 5, 10, 15, and 30 days before a match. Columns 2, 4, 6, and 8, present the analogous regressions including rivalry fixed effects. * $p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

Table A8: Baseline results with false discovery rate adjusted standard errors

	(1)	(2)	(3)	(4)
		Interaction: Draw	Interaction: High-stakes	Interaction: Red cards
Post-Match 5d.	0.23	0.21	0.22	0.23
	(0.010)**	(0.033)**	(0.015)**	(0.008)***
	[0.027]**	[0.027]**	[0.027]**	[0.027]**
Post-Match 5d. x Interaction		0.04	0.14	-0.09
		(0.520)	(0.104)	(0.000)***
		[0.139]	[0.049]**	[0.027]**
Match-region FE	Yes	Yes	Yes	Yes
Calendar FE	Yes	Yes	Yes	Yes
Ind. controls	Yes	Yes	Yes	Yes
Control mean	-0.02	-0.02	-0.02	-0.04
Adj. R2	0.09	0.09	0.09	0.09
Obs.	6118	6118	6118	5640

Note: This table presents the baseline specification and the main heterogeneous treatment effects analyses, with standard p-values in parentheses and false discovery rate adjusted p-values in brackets, following Anderson (2008). All results remain statistically significant and the interaction with high-stake matches only becomes significant under FDR adjusted standard errors. * $p < 0.1$, **$p < 0.05$, ***$p < 0.01$.